OASES™

Overall Assessment of the Speaker's Experience of Stuttering

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PEARSON

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Manual

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OASES™ Manual

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Introduction and Overview

Chapter 1

The *Overall Assessment of the Speaker's Experience of Stuttering* (OASES™) examines the entirety of the stuttering disorder from the perspective of the individual who stutters. A self-report measure designed for individuals 18 and older who stutter, the OASES instrument evaluates the speaker's perceptions of observable stuttering behaviors, reactions to stuttering, and difficulties in performing daily activities involving communication.

The primary goal of the OASES instrument is to provide clinicians with a measure of the overall impact of stuttering on a person's life. This is somewhat different from most other stuttering assessment protocols, which tend to focus on individual components of the disorder (e.g., the surface severity of stuttering, the speaker's communication attitudes, etc.; see Yaruss & Quesal, 2006). The OASES instrument is also the first published measure to examine both functional communication difficulties and quality of life in individuals who stutter.

Because it encompasses the entire experience of stuttering, the OASES instrument can be used for enhancing the speaker's and clinician's understanding of the disorder during a diagnostic evaluation, identifying specific aspects of the disorder to be addressed during treatment planning, and assessing treatment outcomes in both clinical practice and research for a wide variety of treatment approaches.

Overview of Administration and Content

The OASES consists of the record form, this manual, and optional scoring and reporting software. The instrument can be administered to individuals or groups for diagnostic and progress-monitoring purposes. Completing the entire test takes approximately 15 minutes. The individual completes the demographic information and the remaining pages of items. There is a total of 100 items; however, items that are not relevant may be skipped. The items are presented in four separate but related sections, each of which correlates to a specific component of the stuttering disorder as described in the World Health Organization's *International Classification of Functioning, Disability, and Health* (ICF; 2001). (Additional information on the ICF is provided on page 4.) The clinician then scores the test.

Section I: General Information

These 20 items assess the speaker's perception of his or her impairment, including self-ratings of speech fluency, speech naturalness, and knowledge about self-help and treatment options. In addition, this section includes a number of broad statements designed to evaluate the speaker's overall impressions of his or her speaking ability and of being identified as a person who stutters.

Section II: Your Reactions to Stuttering

This section addresses personal contextual factors and consists of 30 items that assess the affective, behavioral, and cognitive reactions the speaker experiences as a result of stuttering. The items in this section assess the speaker's shame, embarrassment, and guilt (affective reactions); tension, struggle, and avoidance (behavioral reactions); and beliefs about speaking and stuttering (cognitive reactions).

Section III: Communication in Daily Situations

Consisting of 25 items that assess the difficulties the speaker has when communicating in daily situations (such as at work, in social settings, or at home), this section addresses environmental contextual factors and activity limitations. Included in this section are items that assess how difficult it is for the individual to

speak under time constraints, talk to large or small groups, speak on the telephone, give presentations and participate in meetings, order food at a restaurant, and talk to family members and others at home.

Section IV: Quality of Life

The negative impact of stuttering on a person's life is the focus of the 25 items in this section. The items address environmental contextual factors and participation restrictions. Examples of items include ratings of the speaker's satisfaction with his or her ability to communicate in key situations and with important individuals, and the degree to which stuttering interferes with the speaker's relationships with others and his or her ability to participate in life.

Each item is scored on a 5-point scale. For all items, as well as for the test as a whole, higher scores indicate a greater negative impact of stuttering.

OASES Features

The instrument provides clinicians with a comprehensive assessment of an individual's stuttering, based on a strong theoretical foundation for describing the nature of human health experience combined with an advanced understanding of the nature of the disorder. It was designed to incorporate the following characteristics:

- presents an easy-to-complete format with clear and concise test items and straightforward response scales (5-point scales, with higher responses always indicating greater negative impact)
- encompasses a strong theoretical framework that is used throughout the world for describing the overall impact of disorders such as stuttering
- provides information about the speaker's (a) perceptions of speech fluency and naturalness, (b) affective, behavioral, and cognitive reactions, (c) functional communication difficulties in key situations, and (d) assessment of the impact stuttering has on his or her overall quality of life
- includes items that help speakers and clinicians understand the nature of the experience of the stuttering disorder (this is particularly helpful for clinicians who are less familiar with stuttering diagnosis and treatment)
- helps to draw clinicians' attention to the more intrinsic aspects of the stuttering disorder (e.g., avoidance, negative emotional reactions)
- helps speakers identify the negative impact of stuttering on their quality of life
- provides easy-to-calculate impact scores that can be compared over time and across individuals
- allows impact scores to be converted to impact ratings indicating mild, mild-to-moderate, moderate, moderate-to-severe, or severe overall negative impact of stuttering on quality of life
- provides an assessment that can be used to qualify individuals for therapy and to document treatment outcomes in clinical work and research
- offers validity from a development process of pilot testing, refinement, and standardization on responses of more than 300 individuals who stutter
- demonstrates high internal consistency and test–retest reliability and strong evidence of construct validity

Applications

The basic purpose of the OASES instrument is to provide a means of documenting the experience of stuttering from the perspective of the individual who stutters. Because it is a comprehensive measurement tool, it can be used for a variety of purposes, depending on the speaker's and clinician's needs.

During a diagnostic evaluation before treatment begins, the OASES instrument can be used to:

- document an individual's perceptions of speech fluency, negative reactions, communication difficulties, and impact on quality of life
- differentiate between individuals with varying experiences of the stuttering disorder and provide an indication of how one speaker's experience compares to another's
- supplement clinician-derived measures of speech fluency with measures of the speaker's self-report about the experience of stuttering
- provide comprehensive justification for the clinician's treatment recommendations
- meet treatment eligibility requirements of third-party payers or other agencies
- support initial treatment-planning activities

During treatment, the OASES instrument can be used to:

- ensure that the clinician is addressing all aspects of the disorder in the treatment plan, as required by the American Speech-Language-Hearing Association's scope of practice for speech-language pathologists (ASHA, 2001)
- identify aspects of the disorder that are responding to treatment and document progress
- identify aspects of the disorder that are not responding to treatment and provide a justification for changes in treatment strategies
- support ongoing treatment-planning and refinement activities
- determine the appropriateness and timing of discharge from treatment

After treatment, the OASES instrument can be used to:

- evaluate maintenance of treatment gains over time and at long-term follow-up
- identify specific aspects of the disorder in which a speaker has experienced relapse
- determine the appropriateness and timing of resumption of treatment

In research settings, the OASES instrument can be used to:

- provide comprehensive documentation of a speaker's overall experience of stuttering at baseline, before and after treatment, and at long-term follow-up
- provide a standard means of evaluating treatment outcomes across individuals and across treatment approaches
- explore the relationships between various aspects of the speaker's experience of stuttering (e.g., whether changes in speech fluency are directly related to changes in quality of life)
- provide a means for directly comparing the results of various treatment approaches that focus on different aspects of the stuttering disorder

Rationale

Stuttering affects a person in individual ways, unique to each person who stutters. The OASES results bring that knowledge of the individual within a standard framework for describing human health experience, the ICF, which takes into account not only the symptoms of a disability, but also the impact those symptoms have on a person's ability to perform daily activities and participate fully in life.

Clinical Background: Considering the Entire Stuttering Disorder

Stuttering is a communication disorder that can affect many aspects of a person's speech and overall communication ability. At its most basic level, stuttering involves disruptions in a person's ability to speak fluently (see review in Bloodstein, 1995). In other words, people who stutter produce disfluencies in the midst of their speech.

Although observable speech disfluencies are an important component of the disorder, they are by no means the only important component, for these disfluencies can also lead to an overall difficulty in

expressing thoughts and interacting with others. Common communication problems experienced by people who stutter include difficulty talking on the phone, giving presentations or participating in meetings at work, and talking under time constraints. Specific situations such as ordering food in a restaurant, introducing themselves at a party, and participating in family discussions can also present significant challenges.

Indeed, many individuals who stutter report that their daily experience of stuttering involves much more than just the surface disruptions in their speech (e.g., Cooper, 1993; Manning, 1999, 2001; Murphy, 1999; Shapiro, 1999; Sheehan, 1970; Starkweather & Givens-Ackerman, 1997; Van Riper, 1982; Yaruss, 1998, 2004; Yaruss & Quesal, 2004; Williams, 1957). For example, many people who stutter experience negative reactions associated with their speaking difficulties. These reactions are often classified as affective, behavioral, and cognitive (e.g., Cooper, 1993; Watson, 1988):

- Affective reactions include speakers' feelings of embarrassment and shame because of the way they sound or look when they stutter. They may also experience anger and frustration when they cannot say what they want to say, or they may feel isolated and lonely because of the difficulty they have in social interactions.
- Behavioral reactions include struggling and tension in the speech muscles during fluent and stuttered speech. In addition, speakers may avoid certain sounds or words or even entire speaking situations.
- Cognitive reactions include low self-esteem or reduced self-confidence, feelings of inadequacy associated with speaking or communication, and a sense that stuttering cannot be overcome.

The individual who stutters is not the only one who may react negatively to stuttering. Family members, co-workers, employers, friends, and others may not know how to react appropriately when speaking to a person who stutters. They may cut the person off, fill in words, or apply time constraints or other stressors (intentionally or inadvertently), making it even more difficult for the person to communicate. In extreme cases, people who stutter experience teasing, prejudice, and discrimination because of other people's misunderstandings about the disorder.

Negative reactions on the part of the speaker and those around him or her can lead to negative consequences that hinder the speaker's ability to do the things he or she wants to do, ultimately reducing quality of life (Yaruss, 2004; Yaruss & Quesal, 2004). Individuals who stutter may experience decreased satisfaction with their ability to achieve goals, problems in relationships with family members and others, and an adverse impact on their overall health and well-being. It is common for people who stutter to report reductions in quality of life that are directly linked to their stuttering, and many treatment approaches directly or indirectly seek to reduce this negative impact (e.g., Manning, 2001; Shapiro, 1999).

Theoretical Background: *The International Classification of Functioning, Disability, and Health* (ICF)

To ensure a broad-based and comprehensive assessment of the entire stuttering disorder, the OASES instrument was developed based on a standard framework for describing human health experience (Yaruss, 1998, 2007; Yaruss & Quesal, 2004). This framework, the World Health Organization's *International Classification of Functioning, Disability, and Health* (ICF; 2001), incorporates not only the symptoms of disorders (in this case, speech disfluencies) but also the impact those symptoms have on a person's ability to perform daily activities and participate fully in life.

Designed to describe major aspects of human health, both positive and negative, the ICF is ideally suited to the purposes of the OASES instrument because it facilitates the description not only of the broader difficulties that one might experience as a result of stuttering but also the positive changes one might experience as the result of successful treatment.

The ICF is divided into two primary components: (a) body function and body structure and (b) activities and participation. The first section describes the major functions and structures of the human body:

- the anatomical structures of the skeleton and muscles and the functions of those structures, such as movement and ambulation
- the anatomical structures of the nervous system and the functions of those structures, including cognition and sensation
- the anatomical structures of the lungs, larynx, and mouth and the functions of those structures, including respiration, phonation, and articulation

The second section, activities and participation, describes the daily activities or tasks in which an individual might engage and the ways in which he or she might participate in life. Most notable among these activities are those related to communication, such as starting, maintaining, or ending conversations and discussions; interacting with one or more persons; and speaking. Also described are daily activities at work and in other settings, participation in social and civic life, and interpersonal relations.

The ICF also defines difficulties associated with body function and structure (impairments) and with activities and participation (activity limitations and participation restrictions). For people who stutter, the impairment in body function is the difficulty they have producing fluent speech (i.e., observable stuttering behaviors). All people who stutter exhibit this impairment to some degree, and it is this functional impairment that has thus far received the most attention in stuttering research and treatment (e.g., Bloodstein, 1993). Some people who stutter may also exhibit an impairment in body structure. For example, recent studies have revealed notable differences in the neuroanatomical structure of the brains of at least some adults who stutter (e.g., Foundas, Bollich, Corey, Hurley, & Heilman, 2001; Foundas, Corey, Angeles, Bollich, Crabtree-Hartman, & Heilman, 2003; Giraud et al., in press; Jäncke, Hänggi, & Steinmetz, 2004; Sommer, Koch, Paulus, Weiller, & Büchel, 2002).

The ICF also provides examples of limitations in daily activities and restrictions in participation experienced by people who stutter. Examples include difficulties experienced when using the phone, starting or ending conversations and making small talk. People who stutter may also experience problems obtaining or maintaining employment, interacting with others in social settings, and fulfilling their life goals. Limitations in daily activities associated with stuttering can be related to functional communication difficulties, and restrictions in participation can be related to reductions in overall quality of life, as described in the previous section (Yaruss & Quesal, 2004).

Two additional components, termed contextual factors, are included in the ICF. They address the personal and environmental aspects of a person's health experience. The inclusion of these components is particularly important in understanding stuttering because the reactions of the speaker (affective, behavioral, and cognitive), as well as the reactions of those in the speaker's environment, play an important role in determining whether or not the speaker will experience difficulties in functional communication (activity limitations) or reductions in quality of life (participation restrictions).

In other words, the ICF model, as it applies to stuttering, indicates that when speakers stutter (i.e., exhibit an impairment in body function), they may experience negative reactions (personal contextual factors), and people around them may exhibit negative reactions (environmental contextual factors) that can lead to limitations in the speakers' ability to perform daily activities associated with communication and their ability to participate in life. Taken together, the components of the ICF provide a strong foundation for the authors' assertion that "stuttering is more than just stuttering" (Yaruss, 1998, 2007; Reardon-Reeves & Yaruss, 2004; Yaruss & Quesal, 2004, 2006; see also Cooper, 1993; Manning, 1999, 2001; Murphy, 1999; Shapiro, 1999; Sheehan, 1970; Starkweather & Givens-Ackerman, 1997; Van Riper, 1982; Williams, 1957)—and for developing a measurement instrument designed to capture the broad-based nature of the stuttering disorder.

Summary

One of the primary goals in creating the OASES instrument was to help speech-language pathologists and others understand the many ways in which stuttering can affect people's lives. In particular, it is

critical to realize that the experience of stuttering, when viewed from the perspective of the speaker, can involve far more than just speech disfluencies. By creating a measurement instrument that highlights the broad and varied nature of the speaker's experience of stuttering, the goal was to provide clinicians and researchers with a tool that will help them document the entirety of the disorder in both diagnosis and treatment. Hopefully, this will encourage clinicians to provide more comprehensive treatment and give researchers the tools they need to conduct meaningful and appropriate evaluations of stuttering treatment outcomes.

Administering and Scoring the OASES Instrument

Chapter 2

One of the primary goals in the development of the OASES instrument was to make it easy for both the clinician and the speaker to use. Because it is a self-administered test, there is relatively little set-up or preparation required. Scoring consists primarily of totaling the speaker's responses in each of the four sections and looking up the impact scores and ratings on the response form. Before using the OASES instrument, it is important to review this chapter thoroughly because it provides detailed instructions and helpful background information.

When to Use This Test

The OASES instrument was designed to be used at various times throughout the clinician's interaction with the speaker and in a variety of clinical and research settings. In clinical settings, the OASES instrument can be used:

- before a diagnostic evaluation, as part of the standard intake materials the clinician provides to the speaker (e.g., demographic and case history forms)
- during a diagnostic evaluation, as part of the standard testing the clinician conducts to identify the nature of the speaker's stuttering and to determine his or her course of treatment
- during treatment, to assist with ongoing treatment planning
- at the conclusion of treatment, to document progress
- at follow-up to verify maintenance of treatment gains

In research settings, the OASES instrument can be administered as part of the test battery that is used for including or excluding study participants or for documenting changes associated with treatment in outcomes and efficacy studies.

General Test Information

The OASES response form has space for recording demographic information (see **Figure 2.1**) and scores (see **Figure 2.4**). All of the background information can be completed by the speaker. It is not necessary

Figure 2.1 Sample demographic data on response form

Name: Joe Smith

ID Number: 12345

Birth Date: 02/01/2008 Test Date: 01/02/1980 Gender: ☑ M ☐ F

Are you married (or do you have a significant other)? ☑ Yes ☐ No

Do you have children? ☐ Yes ☑ No

Are you currently employed (or have you been employed in the past three months)? ☑ Yes ☐ No

Have you ever received speech therapy? ☑ Yes ☐ No If yes:

Are you currently receiving speech therapy? ☑ Yes ☐ No

What was the approximate date of your most recent speech therapy? 03/04/2005

Instructions

This test consists of four sections that examine different aspects of your experience of stuttering. Please complete each item by circling the appropriate number. If an item does not apply to you, leave it blank and move on to the next item.

Turn to the next page.

for the clinician to record any identifying information prior to administration. The individual who stutters also completes the other pages independently, responding to a total of 100 items. Scoring is done by the clinician.

Administration Time

The OASES instrument is not timed. Speakers may have as much time as they need to respond to the 100 items. During pilot testing and development, nearly all participants required less than 20 minutes to complete the test, with the majority needing only 15 minutes.

Test Setting and Conditions

Because of the variety of ways in which this instrument can be used, there are few restrictions on the conditions or settings for administration. In essence, all that is needed is for the speaker to have 15 to 20 minutes to complete the form in a quiet, private setting. No special materials are required for completing the OASES response form. A ballpoint pen or a pencil with a sharp point will make the clearest marks on the response form; felt-tip pens may smudge or make marks that are difficult to read. Number 2 pencils are necessary for scannable forms. The speaker should be seated at a table or desk or given a clipboard. Computer administration is also an option.

Establishing Rapport

Because the OASES instrument is self-administered, it is not necessary for the clinician to be present. In some cases, the response form will be given to a client before a diagnostic evaluation as part of the intake process a clinician normally uses to prepare for an assessment session. However, in order to protect the items, the test should never be sent home with the client.

Regardless of where and when the client takes the assessment, it is important for the clinician to establish rapport. This will help the client feel comfortable answering the questions, thereby increasing the likelihood of accurate and honest responses. If the client takes the test while the clinician is not present, a follow-up conversation is recommended to answer any questions the client may have about specific items. If the client completes the form in the clinician's office, it is important to explain that he or she may ask questions about the assessment process and about the instrument. In either case, the clinician should explain that the purpose of the instrument is to gather information about how stuttering affects the person's life.

Finally, the clinician should assure the client that his or her responses will be kept in strictest confidence. Because some of the items may be particularly personal or sensitive for some, an assurance of confidentiality can help the client feel comfortable enough to provide honest responses. The assessment should be given to him or her in a confidential setting (i.e., not in a general waiting area where other people are present). Stuttering may be a sensitive topic for some speakers, and openly identifying them in front of others may be a cause for significant concern. Speakers should be in a private location, such as the clinician's office, when they receive the response form and the directions for completing it.

Introducing the Test

The OASES response form contains instructions (see **Figure 2.2**) to the speaker that briefly explain the purpose of the test. The clinician should direct the client's attention to these instructions and offer to help with any questions that might arise.

Figure 2.2
Instructions for the speaker

Instructions

This test consists of four sections that examine different aspects of your experience of stuttering. Please complete each item by circling the appropriate number. If an item does not apply to you, leave it blank and move on to the next item.

Turn to the next page.

Discussing Individual Items

During OASES development, considerable attention was paid to the wording of the test items to ensure that they would be easy for speakers to understand. Occasionally, however, speakers may have questions about individual test items. It is acceptable for clinicians to provide input to help speakers understand an item. This input can take the form of questions the clinician might ask about specific experiences the speaker has had or examples the clinician might provide about how other speakers have interpreted the test item.

For example, in Section I, item 7 asks speakers how knowledgeable they are about "factors that affect stuttering." If the speaker does not understand what is meant by "factors that affect stuttering," the clinician can indicate that the question refers to the things that make stuttering more or less likely in a given situation. Examples of factors that may make stuttering more likely include time constraints, anxiety, and concern about the topic of discussion. Examples of factors that may make stuttering less likely include speaking in a one-on-one setting, speaking to listeners who are accepting of stuttering, etc.

During pilot testing, speakers rarely had questions about the test items, so it is unlikely that the clinician will need to provide help. However, if the speaker is still not able to understand a question after the clinician has explained it, the clinician should tell the speaker to skip it and move on to the next one.

Legitimate Skips and Other Omitted Items

The client should also be told that because the items were developed based on interviews with hundreds of people who stutter, some of the items may not apply to the client. It is acceptable for speakers to skip items that do not apply to them. **Table 2.1** shows items that may be legitimately skipped by a speaker depending on his or her answers to a few demographic questions (shown in the left column). In addition to being listed in this table, these are designated on the hand-scored response form by a small letter icon (M for married, C for children, E for employed, T for therapy) next to the items. Ideally, if using the hand-scored form, the clinician should go through the response form before giving it to the client and cross out all items that do not apply (for example, if the clinician knows that the speaker has never had speech therapy, the four items marked with a "T" should be crossed out). If these items are not crossed out before giving the form to the client, they should be crossed out afterwards, and any responses should be ignored. In addition, subtract any legitimately skipped items from the minimum score when computing impact ratings for sections. If the scoring is computerized, these items are automatically ignored, but see Table 2.1 to determine which items were legitimately skipped.

Scoring

Reviewing the Completed Form

The first step in scoring is to review the completed form for accuracy and completeness. If possible, this should be done while the client is still present, so that corrections can be made immediately.

The clinician should look for any non-legitimate skips or otherwise unscorable items (e.g., if the individual chose two responses). The clinician should, if possible,

Table 2.1 Items That May Be Legitimately Skipped

Demographic Information	Items that will not apply				
	Section I	Section II	Section III	Section IV	Total Number
Not married/ No significant other			72		1
No children			73		1
Not employed			61, 62, 63, 64, 65	80, 88, 89, 90, 91, 92	11
Never in speech therapy	4, 14, 15, 17				4

ask the client to respond to any non-legitimate omissions and to clarify any multiple responses. A maximum of 2 unscorable items per section are allowed (beyond those that are legitimate skips). If a section has 3 or more non-legitimate omitted items, the impact score for that section will not be valid and should not be calculated. Also, if there are 9 or more non-legitimate omissions on the entire instrument, the overall impact score should not be computed.

Computing Scores

If the client completes a hand-scored response form, scoring can be done in five simple steps:

1. For each section, the clinician adds the total number of points on all items that were answered.
2. The clinician counts how many items were skipped (legitimately or otherwise) and subtracts this from the number of items in the section to get a total number of items answered. The total points and number of items answered for each section are then recorded in the scoring summary section on the cover of the response form.
3. The clinician sums the number of points and counts the number of items answered across all four sections.
4. The clinician calculates the impact score for each section and for the overall test by dividing the number of points by the number of items answered and rounding the quotient to two decimal places.
5. The clinician determines impact ratings for each section and for the overall test by referring to the chart on the response form (shown in **Figure 2.4**).

Step 1: Sum the Speaker's Response Scores

Each item is scored on a 5-point scale, with higher scores indicating greater negative impact of stuttering on the speaker's life. To determine the total number of points, add up the speaker's response scores in each section. For example, **Figure 2.3** shows sample responses for some of the items in Section III, with the total points, items skipped, and items completed filled in.

Sum all the points for the client's item responses in each section of the response form and record the result at the bottom of the section.

The minimum and maximum total number of points for each section are shown at the bottom of each page of the response form. Note that the minimum number of points for each section is achieved if the speaker provides an answer of 1 to each item and meets the limit of two

Figure 2.3 Hand-scored response form sample

D.	How *difficult* is it for you to communicate in the following situations at home?	Not At All Difficult	Not Very Difficult	Somewhat Difficult	Very Difficult	Extremely Difficult
71.	Using the telephone at home	1	(2)	3	4	5
72.	Talking to your spouse/significant other	1	2	3	(4)	5
73.	Talking to your children	1	2	(3)	4	5
74.	Talking to members of your extended family	1	2	(3)	4	5
75.	Taking part in family discussions	1	2	3	(4)	5

For Office Use Only	Total Points: 78	Items in Section: 25
Section III	Min: 23 (minus no. of legit. skips)	Items Skipped: 1
	Max: 125	Items Completed: 24

non-legitimate skips per section. Note, too, that a speaker can achieve a total number of points that is *lower* than the minimum indicated at the bottom of the page if he or she has any legitimate skips. (See page 9 for more information on legitimate skips.)

Step 2: Count the Number of Items Skipped

Because speakers are allowed to skip items that do not apply to them, scores are based on the total number of items answered. The total number of items in each section is shown at the bottom of the section on the response form. This information is also shown in **Table 2.2** below. Count the number of items skipped in a section (both legitimate and non-legitimate skips) and record it in the space provided; then subtract it from the total number of items in the section to obtain the number of items answered. (Note: see pages 9–10 for how to proceed if the client has too many non-legitimate skips.)

Table 2.2 Total Number of Items

Section	Number of Items
I: General Information	20
II: Your Reactions to Stuttering	30
III: Communication in Daily Situations	25
IV: Quality of Life	25
OASES Overall Test	100

Step 3: Sum the Number of Points and Items Answered

In the score summary table on the cover of the response booklet, write the number of points and the number of items answered for each section in columns A and B, respectively (see **Figure 2.4** below). Sum these numbers to obtain the overall number of points and overall number of items answered on the entire instrument.

Step 4: Calculate Impact Scores

For each section and for the overall instrument, calculate the impact score by dividing the number of points by the number of items answered. Record these quotients, rounded to two decimal places, in the "Impact Score" column of the summary table on the response form cover (see **Figure 2.4**). Round .5 up; for example, 2.385 would round to 2.39. If the number of items answered in a section or for the overall instrument is smaller than the minimum number shown in the summary table, do not compute that impact score. However, remember to subtract legitimately skipped items from the minimum for each section (see page 9). Note that the impact scores all range from 1.00 to 5.00 regardless of whether the scores are calculated for an individual section or for the test as a whole. The instrument was designed in this way to facilitate easy comparison across sections, between clients, and over time.

Figure 2.4 Sample score summary table from hand-scored response form with scores filled in

				Impact Rating				
Section	A Points	B No. Items Taken	A ÷ B = Impact Score	Mild 1.00 - 1.49	Mild/Moderate 1.50 - 2.24	Moderate 2.25 - 2.99	Moderate/Severe 3.00 - 3.74	Severe 3.75 - 5.00
I	78	20 (min = 18)*	3.90	☐	☐	☐	☐	☑
II	90	29 (min = 28)	3.10	☐	☐	☐	☑	☐
III	95	23 (min = 23)*	4.13	☐	☐	☐	☐	☑
IV	74	25 (min = 23)*	2.96	☐	☐	☑	☐	☐
Overall (Total)	337	97 (min = 92)*	3.47	☐	☐	☐	☑	☐

*Note. Reduce this number by the number of legitimate skips, if any. See "Legitimate Skips and Other Omitted Items" on page 9 of the manual.

Step 5: Determine Impact Ratings

Impact ratings indicate the extent to which various aspects of the stuttering disorder affect the speaker's life. To determine impact ratings for the individual sections and for the instrument as a whole, use the table on the cover of the response form. (This information is also shown below in **Figure 2.5**).

Figure 2.5 Determining impact ratings

Impact Rating	Impact Score
Mild	1.00–1.49
Mild-to-Moderate	1.50–2.24
Moderate	2.25–2.99
Moderate-to-Severe	3.00–3.74
Severe	3.75–5.00

For example, a speaker who had an impact score of 1.25 for Section 1 would have an impact rating of "mild" for that section of the OASES instrument. A speaker who had an overall impact score of 4.00 would have an overall impact rating of "severe." Interpretation of impact ratings is discussed in Chapter 3.

Communicating Results

Communicating the results to the client should be done in the privacy of the clinician's office to ensure confidentiality. The meaning of the impact scores and ratings should be explained and accompanied by examples when possible.

Summary

The OASES instrument was designed to be easy for clients to complete and easy for clinicians to score. Instructions are provided to the speaker on the response form, and the clinician may help the speaker answer any items that are not clear. Scoring is based on straightforward procedures with minimal calculations and easy-to-use look-up tables. Chapter 3 explains how to interpret impact scores and ratings.

Interpreting Results

Chapter 3

This chapter explains how to interpret results from the OASES instrument. Interpretation guidelines are based on data and experience gained through the validation of the instrument and through input provided by many expert clinicians and individuals who stutter. (Additional information about OASES development and validation is provided in Chapter 4.)

The OASES instrument was designed to provide a comprehensive assessment of a speaker's experience of stuttering. It yields a wealth of information that clinicians can use when working with individuals who stutter. This information includes impact scores and impact ratings for each section of the test (General Information, Your Reactions to Stuttering, Communication in Daily Situations, Quality of Life) and for the test as a whole. In addition, clinicians can gain a tremendous amount of information for supporting treatment planning decisions by examining responses to individual items in each section of the test.

As with most assessment instruments, OASES findings are best understood in the context of a comprehensive test battery. The OASES instrument was not designed to be used in isolation. Instead, it should be considered a supplement to other measures the clinician uses, including direct observation and testing of a speaker's fluent and disfluent speech, detailed case history information obtained through interviews with the speaker and other relevant individuals, and results from testing other related aspects of the speaker's communication abilities.

Assessing the Quality of OASES Responses

During test development, the authors attempted to maximize the likelihood that individuals would provide accurate responses by (a) ensuring that the test items were clearly worded and easy to understand, (b) selecting test items that were directly relevant to the experience of many people who stutter, (c) grouping related test items so individuals would have a better understanding of what aspects of the disorder were being examined in each part of the test, and (d) analyzing responses to ensure internal consistency.

Even with this careful preparation, it is possible that some people may not provide accurate information. Possible reasons for this include reduced attention to completing the test, reading difficulties, problems understanding items, and confusion about the intent of some items. Before attempting to interpret OASES scores, the clinician should examine the test to determine if the client provided accurate information. This determination should be based on the clinician's overall understanding of the disorder and the speaker's specific experiences with stuttering, the speaker's responses to other tests and measures used as part of a comprehensive diagnostic evaluation, and the clinician's direct observation of the speaker's communication behaviors.

In addition, the clinician should determine how many items the individual skipped. If there are more non-legitimate skips or otherwise unscorable items than allowed in any section (see pages 9–10), an impact score should not be calculated for that section or for the test as a whole. The clinician should also check to ensure that the client did not mark the same response (e.g., 1 or 5) for every item in a section, which can indicate an attention or comprehension problem. During tryout and standardization testing, this happened very rarely.

If the clinician determines that the scores for the overall test may not be reliable, the overall impact scores and ratings should not be used. In such cases, it may still be possible to use scores from individual sections of the test. For example, a client may have provided accurate information for Sections I, II, and III

but not for Section IV. If this occurs, the clinician can interpret the first three sections and disregard the responses to items in the final section.

Even if the scores for the individual sections do not appear to be valid, the clinician can consider whether any of the responses to the 100 test items provide useful information. In such cases, the impact scores and impact ratings should not be used, and the reasons for the questionable findings should be documented.

Interpreting Overall Impact Scores and Impact Ratings

Because stuttering is a multifaceted disorder that no two people experience in the same way, it can be difficult to apply a single label (e.g., mild, mild-to-moderate, moderate, moderate-to-severe, or severe) to an individual's experiences. Nevertheless, it can be useful to employ broad descriptors of people's experiences with stuttering for a variety of reasons, including:

- describing the overall impact of stuttering, both before and after treatment
- determining eligibility for agencies that base treatment recommendation guidelines on a minimum level of negative impact
- comparing the experiences of an individual speaker to the experiences of other people who stutter
- defining inclusion or exclusion criteria for research studies

If clinicians are cautious in their interpretation of OASES scores and impact ratings, they can derive meaningful information about the nature of an individual's stuttering and how it compares to the experiences of other people who stutter.

Table 3.1 presents broad interpretations of how the five impact rating categories may be associated, in a general sense, with the characteristics and experiences of individuals who stutter. These characteristics and experiences can be related to factors such as: (a) the speaker's perception of his or her speech fluency and stuttering; (b) the way the speaker thinks and feels about his or her stuttering (including affective and cognitive reactions such as embarrassment, shame, and anxiety); (c) behavioral reactions such as tension, struggle, and avoidance; (d) the difficulties the speaker may have in communicating in daily situations; (e) the effect stuttering may have on the speaker's ability to perform daily activities; and (f) the negative impact of stuttering on the speaker's life as a whole. Of course, individuals who take the OASES instrument will not necessarily exhibit all of the characteristics described in Table 3.1, and speakers may have different experiences related to different aspects of their disorder. The purpose of this table is to provide guidelines to help clinicians understand the experiences that may be associated with their clients' stuttering. (Note that similar tables are provided later in this chapter that focus specifically on the four individual sections of the test. Table 3.1 attempts to combine all of these into more global generalizations of the potential experience of stuttering.)

Again, it is important for clinicians to recognize that people who stutter have varied experiences, and some people may experience difficulty with different aspects of their stuttering while being relatively comfortable with other aspects of the disorder. Therefore, in addition to examining the overall impact scores and overall impact ratings, it is helpful to examine scores from each of the four sections of the test independently.

Interpreting Impact Scores and Impact Ratings for Individual Sections

As described in Chapter 1, the OASES instrument is based on the World Health Organization's *International Classification of Functioning, Disability, and Health* (ICF; 2001), a comprehensive model designed to describe all aspects of human health experiences. A fundamental assumption of the ICF model is that related aspects of an individual's experience of a disorder such as stuttering can be considered independently. Thus, one can talk not only about

Table 3.1 Interpretations of Overall Impact Ratings

Overall Impact Rating	Overall Impact Scores	Overall Characteristics and Experiences
Mild	1.00–1.49	Views self as able to speak fluently and communicate easily in nearly all situations. May exhibit some minimal physical tension during stuttering, but not enough to interfere with communication. Exhibits few, if any, negative affective and cognitive reactions to stuttering and is not concerned about the reactions of others. Does not avoid speaking situations or does not change words because of stuttering. Is not limited in the ability to communicate effectively in key situations and is always able to get his or her point across. Does not take stuttering into account when performing daily activities or making life decisions. Is able to function with minimal negative impact.
Mild-to-Moderate	1.50–2.24	Views self as able to speak fluently and communicate easily in many situations but may have some difficulty in specific situations. May exhibit physical tension during stuttering, but not enough to interfere with communication in most situations. Exhibits some negative affective and cognitive reactions to stuttering and may have concerns about the reactions of others. Rarely avoids speaking situations because of stuttering but may occasionally change words to minimize stuttering. Experiences some limitations in the ability to communicate in some key situations but is generally able to get his or her point across. May take stuttering into account when deciding whether to take part in daily activities and when making life decisions. Is able to function but is concerned about how stuttering might interfere with his or her life goals.
Moderate	2.25–2.99	Views self as having difficulty speaking fluently or communicating easily in many speaking situations. Exhibits notable physical tension and some struggle during stuttering and occasionally during fluent speech. This tension sometimes interferes with communication and prevents the speaker from saying what he or she wants to say. Exhibits negative affective and cognitive reactions to stuttering and is concerned about the reactions of others. Avoids some speaking situations and changes words to hide stuttering. Experiences limitations in the ability to communicate in key situations and may sometimes have difficulty getting his or her point across. Is likely to take stuttering into account when deciding whether to take part in daily activities and when making life decisions. Has some difficulty functioning and is concerned about how stuttering interferes with his or her life goals.
Moderate-to-Severe	3.00–3.74	Views self as being unable to speak fluently or communicate easily in most speaking situations. Exhibits notable physical tension and struggle during stuttered and fluent speech, which often interferes with communication and prevents the speaker from saying what he or she wants to say. Exhibits strong negative affective and cognitive reactions and is very concerned about the reactions of others. Avoids many speaking situations and often changes words to hide stuttering. Experiences significant limitations in the ability to communicate effectively in a wide variety of situations and often has difficulty getting his or her point across. Is very likely to take stuttering into account when deciding whether to take part in daily activities and when making life decisions. Has difficulty functioning and is very concerned about how stuttering interferes with his or her life goals.
Severe	3.75–5.00	Views self as being unable to speak fluently or communicate easily in nearly all speaking situations. Exhibits significant physical tension during both stuttered and fluent speech, which often prevents the speaker from saying what he or she wants to say. Exhibits very strong negative affective and cognitive reactions to stuttering and is extremely concerned about the reactions of others. Avoids many situations and words because of stuttering. Experiences significant limitations in the ability to communicate effectively in nearly all speaking situations. Takes stuttering into account when deciding whether to take part in daily activities and when making life decisions. Is unable to function normally in daily life.

the observable impairment seen in people who stutter (i.e., the speech disfluencies) but also about the way those disfluencies affect the speaker in terms of his or her reactions to stuttering, the reactions of those in the speaker's environment, and the ways in which stuttering limits the speaker's ability to perform daily activities and restricts his or her ability to participate fully in life. Together, the consideration of impairment, activity limitations, participation restriction, and personal and environmental reactions can provide a broad-based view of the speaker's experience of the disorder. Additional insights can be obtained by examining these components individually.

As noted previously, the individual OASES sections are tied directly to the components of the ICF. Section I (General Information) gathers information about the speaker's perceptions of his or her stuttering impairment. Section II (Your Reactions to Stuttering) is directly related to the affective, behavioral, and cognitive reactions section of the ICF. Section III (Communication in Daily Situations) gathers information about functional communication and the ability to perform daily activities in specific environments, and Section IV (Quality of Life) gathers information about the speaker's participation restrictions in different environments. Because each section examines a different aspect of the overall stuttering disorder, the clinician can consider each one individually to gain additional insights into the speaker's experience of stuttering. **Tables 3.2** through **3.5** provide interpretive summaries for each of the four sections of the test.

Table 3.2 Interpretations of Section I Impact Ratings

Section I Impact Rating	Section I Impact Scores	Section I (General Information) Characteristics and Experiences
Mild	1.00–1.49	The speaker views his or her speech as fluent and natural-sounding in all or nearly all situations and is able to use techniques learned in therapy. Is able to say what he or she wants to say in all or nearly all situations. Is knowledgeable about stuttering, self-help groups, and options for treatment. Accepts his or her speaking abilities and has few, if any, negative attitudes toward speech.
Mild-to-Moderate	1.50–2.24	The speaker views his or her speech as fluent and natural-sounding in many situations, but there may be some situations in which fluency or naturalness is affected. Fluency may fluctuate from day to day, and the speaker may experience some difficulty using techniques learned in therapy. Is able to say what he or she wants to say in nearly all situations. Is generally knowledgeable about stuttering but may be less certain about what factors affect fluency and what self-help and treatment options are available. Generally accepts his or her speaking abilities but has some negative attitudes toward speaking and stuttering.
Moderate	2.25–2.99	The speaker views his or her speech as fluent and natural-sounding in some situations but experiences considerable variability in fluency from day to day or situation to situation. Has difficulty using techniques learned in therapy and saying what he or she wants to say in some situations but is able to do so at other times. Is uncertain about the factors that affect stuttering and enhance fluency or about treatment options and self-help groups. Is unsure about his or her feelings about speaking and stuttering.
Moderate-to-Severe	3.00–3.74	The speaker views his or her speech as disfluent and unnatural-sounding in many situations. Is generally unable to maintain fluency from day to day and to use techniques learned in therapy. Has considerable difficulty saying what he or she wants to say. Has little knowledge about factors that affect stuttering and fluency or about treatment options and self-help groups. Has difficulty accepting stuttering and has negative attitudes toward speaking and stuttering.
Severe	3.75–5.00	The speaker views his or her speech as disfluent and unnatural-sounding in all or nearly all situations. Is unable to maintain fluency over time and cannot use techniques learned in therapy. Is unable to say what he or she wants to say most of the time. Is unaware of what factors affect stuttering and fluency and has no knowledge of treatment options or self-help groups. Cannot accept stuttering and has very negative attitudes toward speaking and stuttering.

Section I: General Information

Section I is divided into three parts. The first part examines the speaker's perceptions of his or her speech fluency and speech naturalness, as well as his or her ability to maintain fluency, say what he or she wants to say, and use techniques that may have been learned in treatment. The second part examines the speaker's knowledge about stuttering, stuttering treatment, and self-help or support groups. The third part examines the speaker's overall attitudes toward a variety of issues related to being a person who stutters, including ability to speak in general, ability to communicate effectively, being identified by others as a person who stutters, and techniques for modifying speech or enhancing fluency. Together, these items provide general information about the speaker's views of his or her impairment in speech fluency. **Table 3.2** summarizes the characteristics examined in Section I.

Section II: Your Reactions to Stuttering

Section II is divided into three parts. The first part examines the speaker's affective reactions to stuttering, including embarrassment, anxiety, helplessness, anger, and shame. The second part examines behavioral reactions the speaker may exhibit as a result of stuttering, including tension and struggle, avoidance of speaking situations, and use of fillers or starter words. The third part examines the speaker's cognitive reactions to stuttering, including beliefs about how people view stuttering and thoughts about how stuttering has affected his or her life. Section II provides specific information about how the speaker reacts to stuttering. As described in Chapter 1, these reactions play a key role in determining the overall impact of stuttering on the speaker's life. **Table 3.3** summarizes the characteristics examined in Section II.

Table 3.3 Interpretations of Section II Impact Ratings

Section II Impact Rating	Section II Impact Scores	Section II (Your Reactions to Stuttering) Characteristics and Experiences
Mild	1.00–1.49	The speaker exhibits few negative emotional reactions or feelings about stuttering, little or no tension or struggle during stuttered or fluent speech, little or no avoidance of words or situations, and little or no use of fillers or starter words. Feels confident in his or her speaking abilities, accepts stuttering, and is neither defined nor limited by stuttering.
Mild-to-Moderate	1.50–2.24	The speaker sometimes experiences emotional reactions such as embarrassment, frustration, or anxiety associated with stuttering. Occasionally exhibits physical tension or struggle during stuttering. May sometimes avoid words or difficult speaking situations or use fillers or starter words. Feels confident about his or her speaking abilities overall but may have difficulty accepting stuttering and may feel limited by stuttering in some situations.
Moderate	2.25–2.99	The speaker experiences emotional reactions such as embarrassment, frustration, anxiety, and perhaps shame and helplessness. Sometimes exhibits physical tension or struggle during stuttered and fluent speech, avoids a variety of words and speaking situations, or uses fillers or starter words. Confidence in his or her speaking abilities is negatively affected by stuttering. Is unsure about whether he or she can make changes in speech. Has difficulty accepting stuttering and feels that some aspects of his or her life have been limited by stuttering.
Moderate-to-Severe	3.00–3.74	The speaker experiences negative emotional reactions to stuttering, including shame, helplessness, and possibly depression. Regularly exhibits physical tension and struggle during stuttered or fluent speech, avoids many words and speaking situations, or regularly uses fillers or starter words. Has little confidence in his or her speaking abilities and does not think he or she can make changes in speech. Does not accept stuttering and feels that many aspects of his or her life have been limited by stuttering.
Severe	3.75–5.00	The speaker experiences strong negative emotional reactions to stuttering, including shame, depression, and isolation. Struggles with speaking in all situations and avoids many words and nearly all speaking situations, and may even stutter on fillers or starter words. Has no confidence in his or her speaking abilities and feels helpless to change speech. Believes that he or she can never accept stuttering and feels that his or her life has been severely limited by stuttering.

Section III: Communication in Daily Situations

Section III contains four parts. The first part examines the difficulty the speaker has in general speaking situations, such as talking to people one-on-one or in small or large groups, talking under time restraints, talking with familiar or unfamiliar listeners, using the telephone, and participating in challenging conversations. The second part examines communication difficulty in work settings, including giving presentations, participating in meetings, and talking to customers or supervisors. The third part examines communication difficulty in social situations, including engaging in small talk, telling stories, asking for information, and ordering food in a restaurant or drive-thru. The fourth part examines communication difficulty at home, including talking to family members and taking part in family discussions.

Clinicians should keep in mind that the items in Section III focus not on the stuttering a speaker may exhibit in these different speaking situations, but rather on the difficulty the speaker perceives in communicating in those situations. This distinction is important because people who stutter may find that they have relatively little difficulty communicating in some situations even if they are relatively disfluent in those situations

Table 3.4 Interpretations of Section III Impact Ratings

Section III Impact Rating	Section III Impact Scores	Section III (Communication in Daily Situations) Characteristics and Experiences
Mild	1.00–1.49	The speaker has little or no difficulty communicating in any situation, including at work, at home, and in social settings. Is able to say what he or she wants to say in all situations without being limited by stuttering.
Mild-to-Moderate	1.50–2.24	The speaker has some difficulty communicating in specific situations at work, at home, and in social settings but can communicate freely in the majority of situations. May experience some difficulty using the phone and initiating conversations, although some situations are easier than others (e.g., small groups may be easier than large groups; familiar listeners may be easier than unfamiliar listeners). May have difficulty with oral presentations or meetings at work but is able to communicate in these situations with minimal effort. In social situations, may have some difficulty with small talk or participating in conversations, and ordering in restaurants may be difficult at times. May have some difficulty at home using the phone and taking part in family discussions. However, communication in these situations is not negatively affected most of the time, and the speaker is generally able to say what he or she wants to say.
Moderate	2.25–2.99	The speaker has difficulty communicating in many situations at work, at home, and in social settings, although there are some specific situations in which he or she is able to communicate easily. Experiences difficulty initiating conversations and talking with unfamiliar people. Has difficulty at work with oral presentations and meetings. In social situations, has difficulty with small talk, participating in conversations, and ordering in a restaurant. At home, experiences difficulty using the phone and taking part in family discussions. May be able to overcome his or her speaking difficulties in all of these situations but only with significant effort. Is sometimes unable to say what he or she wants to say.
Moderate-to-Severe	3.00–3.74	The speaker has significant difficulty communicating effectively in most situations at work, at home, and in social settings, and there are few situations in which he or she can communicate easily. Experiences significant difficulty using the telephone, introducing himself or herself, talking with both familiar and unfamiliar listeners, and participating in social activities. Is unable to communicate freely at work and may be unwilling or unable to engage in everyday communication activities such as ordering in a restaurant and talking to family members. Overcoming these difficulties requires extreme effort. Often, the speaker is unable to say what he or she wants to say.
Severe	3.75–5.00	The speaker is unable to communicate effectively in nearly all situations at work, at home, and in social settings, and there are few, if any, situations in which he or she is able to communicate easily. Is unable to say what he or she wants to say in nearly all situations, and communication is limited by stuttering.

(e.g., talking to friends or family members). They may not try to achieve or maintain fluency because stuttering in these situations does not make them uncomfortable. Conversely, they may find that other situations pose significant difficulties in communication even though they are more fluent in them (perhaps because they use fluency enhancement techniques learned in therapy or because they substitute words to maintain fluency). **Table 3.4** summarizes the characteristics examined in Section III.

Section IV: Quality of Life

Section IV contains five parts. The first part examines how the speaker's quality of life has been affected by stuttering, his or her reactions to stuttering, and other people's reactions to his or her stuttering. The second part examines the extent to which stuttering interferes with the speaker's communication in general, at work, in social situations, and at home. The third part examines how much stuttering has interfered with the speaker's family life and relationships with others. The fourth part examines the degree to which stuttering has interfered with the speaker's educational and career goals. The fifth part examines how stuttering has affected the speaker's sense of self-worth and self-confidence, overall energy and enthusiasm for life, spiritual well-being, and sense of control over his or her life. **Table 3.5** summarizes the characteristics examined in Section IV.

As with the interpretation guidelines for the overall test, individuals may not exhibit all of the characteristics described above. However, these guidelines can help clinicians understand the patterns that their clients may experience as people who stutter.

Treatment Implications of Section Scores

One of the benefits of basing the OASES instrument on the WHO's ICF model is that the ICF provides a strong theoretical justification for which aspects of the disorder should be examined and, importantly, how these aspects of the disorder may or may not be related to one another. In stuttering, this is a particularly important consideration because the link between the observable characteristics of stuttering (the impairment) and other aspects of the disorder is not necessarily direct. As explained in Chapter 1, some people who stutter may exhibit very noticeable surface characteristics (a high degree of impairment) yet experience relatively few negative reactions and, ultimately, minimal negative impact (i.e., few activity limitations or participation restrictions). On the other hand, some people who stutter may exhibit relatively few disruptions in their surface fluency (i.e., a low degree of impairment) yet still experience severely negative emotional or cognitive reactions, as well as severe difficulties communicating on a daily basis.

Table 3.5 Interpretations of Section IV Impact Ratings

Section IV Impact Rating	Section IV Impact Scores	Section IV (Quality of Life) Characteristics and Experiences
Mild	1.00–1.49	The speaker experiences little or no negative impact on his or her satisfaction with communication, relationships with others, pursuit of educational and career endeavors, and ability to fully pursue life goals and participate in events.
Mild-to-Moderate	1.50–2.24	The speaker experiences some negative impact on a few key aspects of his or her life, including reduced satisfaction with communication in selected situations and some difficulty pursuing educational or career goals. Experiences only minimal limitation in his or her ability to pursue life goals and participate in events.
Moderate	2.25–2.99	The speaker experiences negative impact on certain aspects of his or her life, including reduced satisfaction with communication in many situations, difficulty pursuing educational or career goals, and some limitation in the ability to pursue life goals and participate in events.
Moderate-to-Severe	3.00–3.74	The speaker experiences a strong negative impact on many aspects of his or her life, including reduced satisfaction with communication in most situations, difficulty in family relationships, inability to pursue educational or career goals, and significantly limited ability to pursue life goals and participate in events.
Severe	3.75–5.00	The speaker experiences a pervasive negative impact on his or her satisfaction with communication, relationships with others, pursuit of educational and career goals, and ability to pursue life goals and participate in events.

By considering the different patterns of responses that respondents provide to the four sections of the OASES instrument, clinicians can gain valuable information about the speaker's overall experience of stuttering, and this, in turn, can help them to plan individualized treatment that is tailored to the specific needs of each speaker with whom they work. General information about which components of treatment may be valuable for different speakers are considered below, for each section of the test:

- *Section I: General Information.* Section I was designed to assess the speaker's perceptions of his or her impairment, that is, the surface characteristics of stuttering. Speakers with higher scores in this section may perceive themselves as exhibiting more severe stuttering, less fluent speech, and reduced naturalness in their speech. They may also feel that they have relatively little knowledge about stuttering. In addition, they may harbor more negative perceptions about stuttering in general. Therefore, speakers whose scores indicate a high negative impact in Section I are likely to benefit most when their overall treatment plan includes components and strategies aimed at enhancing fluency, improving speech naturalness, and providing general information and education about stuttering.
- *Section II: Your Reactions to Stuttering.* Section II was designed to assess the speaker's affective, behavioral, and cognitive reactions to stuttering. Speakers with higher scores in this section may exhibit strongly negative feelings about stuttering (e.g., embarrassment, fear, anxiety, shame), actions that interfere with communication (e.g., tension, struggle, avoidance), and negative thoughts about stuttering (e.g., low self-esteem or self-confidence). Therefore, speakers whose scores indicate a high negative impact in Section II are likely to benefit most when their overall treatment plan includes components and strategies aimed at desensitizing the speaker to stuttering (to reduce negative reactions, avoidance) and helping the speaker to accept stuttering (to reduce negative self-concept). In addition, the speaker may benefit from tension reduction strategies such as cancellation or pull-out (e.g., Van Riper, 1973) to enable him or her to communicate with less physical tension.
- *Section III: Communication in Daily Situations.* Section III was designed to assess the speaker's functional communication abilities in key situations. Speakers with higher scores in this section are likely to have greater difficulty communicating in social settings, at work, or at home. Therefore, speakers whose scores indicate a high negative impact in Section III are likely to benefit most when their overall treatment plan includes components and strategies aimed at reducing avoidance, improving the speaker's ability to approach difficult situations, desensitizing the speaker to fears of specific activities, and, of course, enhancing fluency.
- *Section IV: Quality of Life.* Section IV was designed to assess the impact of stuttering on the speaker's overall quality of life. Speakers with higher scores in this section may feel that stuttering has had a negative impact on their satisfaction with communication, with life in general, and with their ability to participate fully in life. Therefore, speakers whose scores indicate a high negative impact in Section IV are likely to benefit most when their overall treatment plan includes components and strategies aimed at reducing the burden of stuttering. Cognitive restructuring activities, desensitization strategies, and counseling aimed at improving acceptance of stuttering can help to reduce the overall burden of the stuttering disorder on the speaker's life.

Note that these aspects of the treatment plan should not be applied in isolation, but rather in combination. The clinician can build an individualized treatment approach for each client by selecting the specific aspects of the speaker's stuttering disorder to be addressed, based on results from the OASES instrument and other testing completed as part of the evaluation process.

Interpreting Responses to Individual Test Items

The scores that clinicians can derive from the OASES instrument are helpful in providing comparisons between speakers or for a specific speaker before and after treatment. Clinicians can gain even more information about their clients by examining their responses to the items in each section of the test.

As will be described in more detail in Chapter 4, each of the OASES items was chosen for inclusion based on a careful analysis of whether it reflected the experience of people who stutter. Of course, not every speaker has experienced all of the issues represented, but the instrument was designed to capture a wide variety of experiences reported by a relatively large number of people who stutter.

By examining which individual items received higher scores (4 or 5), the clinician can focus on experiences that are relevant for a particular speaker even if the overall impact score for a given section is relatively low. For example, in Section I, Part B, a speaker may report that he or she is fairly knowledgeable about stuttering, factors that affect stuttering, and treatment options but that he or she has very little knowledge about self-help groups for people who stutter. If other aspects of the speaker's profile indicate that a self-help group would be beneficial (see, for example, Yaruss, Quesal, & Reeves, 2007), the clinician can provide information about self-help groups as part of the overall treatment process.

Another example is a speaker who experiences relatively little difficulty communicating in most situations but has particular concerns about communicating at work. In this case, a majority of the items in Section III might have low scores, but a majority of the items in Part B (which ask about communicating at work) might have high scores. By examining the individual's item responses, the clinician can identify specific troublesome situations and ensure that treatment addresses them.

Clinicians should examine OASES results carefully after completing the scoring procedures described in Chapter 2. The clinician should also consider the interpretation guidelines in this chapter to identify the specific items that indicate a high degree of impact for an individual speaker. The clinician can use the descriptive statistics for each item presented in Chapter 5 to determine how the client's responses match those of other people who stutter. The clinician should then follow up on those items that received higher scores to ensure that the speaker's concerns are addressed as part of a comprehensive treatment plan. Without this thorough review, the clinician's focus may be only on the overall label of mild, mild-to-moderate, moderate, moderate-to-severe, or severe rather than on the unique and individualized results that the OASES instrument provides.

Summary

Clinicians can use the OASES instrument to gain valuable information about their clients' experiences with stuttering by examining the overall impact score and impact ratings, the impact scores and impact ratings for the four individual sections, and responses to individual items. Taken together with results from other tests and measures, OASES results can help clinicians develop a comprehensive understanding of stuttering from the perspective of their clients. This in turn will help them make appropriate treatment recommendations and allow them to broadly document changes their clients experience during treatment. In addition, OASES results can help researchers evaluate the efficacy of treatment and compare different treatment approaches.

Development

Chapter 4

The OASES instrument was developed in several stages: creation of an initial item pool, review of items by researchers and clinicians with expertise in stuttering treatment and focus groups composed of people who stutter, evaluation of drafts of the test through tryout testing and analysis, and eventual combination of all items into the final instrument. Through this process, items were added, eliminated, reworded, and reordered to create the final version of the test. Finally, scoring procedures were derived and interpretation guidelines were developed.

Guiding Principles

Development of the OASES instrument was guided by several key principles. These principles helped to ensure that the test would achieve its goal of providing a comprehensive assessment of the impact of stuttering on an individual's life without sacrificing ease of use or reliability.

The principles related to OASES test development are listed below.

- The test items should be directly related to the World Health Organization (WHO) framework for describing human health experience. This requirement was put in place to ensure that the instrument would describe the entirety of the stuttering disorder from the perspective of the individual who stutters.
- The test items should be relevant to the experiences of a broad range of people who stutter. Items that were shown through tryout testing to be relevant to only a small number of respondents were kept to a minimum.
- The test should be useful in clinical settings and for research purposes and, in particular, for treatment outcome studies. Items must be worded so they are appropriate for use in pre- and post-treatment analyses. Furthermore, items must be relevant to individuals who have participated in a range of different treatments so that the results of these approaches could be compared.

Principles related to test design include the following:

- The test must be easy to complete, with administration requiring less than 20 minutes, to minimize fatigue and reduce the likelihood that respondents would provide inaccurate responses due to waning attention.
- The test items must be clearly worded, with a clear definition of the response scales, so that those completing the test would be unlikely to need help interpreting the meaning of the items and the response choices.
- Overlap between items should be minimized to control the length of the test, although sufficient overlap must be retained to assess consistency of responses and to allow the clinician to determine whether the client provided accurate and thoughtful answers.
- Scoring must be easy and quick.
- Items should be organized so clinicians can easily interpret scores. OASES items are grouped by topic and have a consistent response scale (higher numbers always indicate greater negative impact).

Following these guidelines helped to ensure that the OASES test would be easy to use for both the client and the clinician, relevant to the experiences of people who stutter, useful for providing information about the evaluation and treatment of people who stutter, and valid for supporting research on stuttering treatment outcomes.

Initial Development, Focus Group Reviews, and Tryout Testing

Original Underlying Structure: The ICIDH

The first principle of OASES test development specified that the instrument should be directly related to the World Health Organization (WHO) framework for describing human health status. At the time the OASES project was started, this framework was the *International Classification of Impairments, Disabilities, and Handicaps* (ICIDH; World Health Organization, 1980). As part of the early development of the OASES project, Yaruss (1998) adapted the ICIDH to the study of stuttering. The relevant components of the ICIDH are described below.

- The first component of the ICIDH, *impairment*, describes the surface characteristics of the disorder. Regarding stuttering, this refers to the speech disfluencies themselves. Because this aspect of the stuttering disorder had already been widely studied (Bloodstein, 1993, 1995), the OASES project did not initially focus on the measurement of speech disfluencies.
- The second component, *disability,* addresses the limitations individuals experience because of their impairment when performing daily activities. As applied to stuttering, disability refers not to the lack of fluency exhibited in different situations (which is described under *impairment)* but rather to the difficulties speakers have with functional communication in those situations.
- The third component, *handicap,* describes the overall disadvantage individuals may experience because of their impairment and resulting disability. In the literature (Frattali, 1998), this disadvantage had been related to a negative impact in overall quality of life, and this convention was followed in the development of the OASES instrument.

The original ICIDH framework was used throughout the world as a means of describing the consequences of disorders in a wide range of fields. However, as many authors pointed out (see Yaruss, 1998), the original framework did not adequately describe the personal and environmental factors that could account for an individual's experience of disability and handicap. As a result, Yaruss added two additional components to the three-part framework of the ICIDH: the speaker's and the environment's reactions to stuttering.

- *The speaker's reactions* are defined as the affective, behavioral, and cognitive reactions experienced by the individual who stutters. As described in the first chapter of this manual, these reactions mediate the occurrence of negative impact (i.e., disability and handicap). Because these reactions are the focus of many treatment programs (Van Riper, 1973), an entire section of the OASES instrument is devoted to them.
- *Environmental reactions* include the reactions of others, including family members, peers, co-workers, employers, and strangers. Reactions include workplace discrimination (Hurst & Cooper, 1983; Klein & Hood, 2004; Rice & Kroll, 1994), comments made by others, and avoidance from individuals who are uncomfortable with stuttering. These reactions play a significant role in the speaker's experience of the stuttering disorder. Because one of the guiding principles of the OASES project was that the instrument should focus on the *speaker's* perception of the stuttering experience, direct assessment of environmental reactions was not included in the development of the instrument. Instead, questions focus on the speaker's experience in different situations and the way he or she responds to various environmental reactions.

Yaruss's (1998) adaptation of the ICIDH provided the foundation for the initial development of the OASES instrument.

Development and Review of Initial Item Pools

Early development of the OASES instrument focused on the three remaining components of the ICIDH adaptation: the speaker's reaction to stuttering, the difficulties speakers have with functional communication in daily activities (disability), and the negative impact on the

speaker's overall quality of life (handicap). Initially, the item pools for these components were developed on the basis of a comprehensive analysis of the literature and, in particular, of existing instruments designed to examine stuttering and other disorders (Yaruss, 2001), as described below.

- *Speaker's reactions to stuttering:* The initial item pool for this component was developed on the basis of a review of other instruments that examine "communication attitudes" in people who stutter (Brutten & Shoemaker, 1974; Cooper, 1993; Erickson, 1969; Ornstein & Manning, 1985; Watson, 1988; Woolf, 1967) and from discussions with individuals who stutter. For the first section, affective reactions, a list of more than 75 "feeling terms" was identified. Similar procedures were used to create initial item pools for the behavioral and cognitive sections.
- *Functional communication:* Developing the initial item pool for this component proved to be somewhat difficult because there are relatively few instruments that examine functional communication. A primary model was the *American Speech-Language-Hearing Association Functional Assessment of Communication Skills for Adults* (ASHA FACS; Frattali, Thompson, Holland, Wohl, & Ferketic, 1995), a tool that focuses on the functional difficulties experienced by adults with speech, language, and cognitive communication disorders. An initial list of 35 items examining the frequency and the degree of communication difficulty was developed and refined based on focus group analyses.
- *Quality of life:* Because there were no pre-existing scales for examining quality of life in people who stutter, items for this component were modeled after items from other quality of life scales (Bergner, 1989; Schipper, Clinch, & Powell, 1990; Schumaker, Anderson, & Czajkowski, 1990; Testa & Simonson, 1996; WHOQOL Group, 1995; see also Frattali, 1998; Kaplan, Anderson, & Ganiats, 1993; McEwan, 1993). Items that specifically related to communication were identified, expanded upon, and adapted to make them relevant to stuttering. The initial item pool for the quality of life component consisted of 30 items.

Each of the three initial item pools was collected onto a draft record form and associated with a series of 5-point and 7-point response scales. These item sets were then distributed to focus groups for an initial evaluation of the relevancy and appropriateness of the test items.

Focus Group Analyses

Two kinds of focus groups were used in the evaluation of the initial item pools. In the fall of 1997, the items were submitted to 20 speech-language pathologists who specialize in fluency disorders. These clinicians and researchers were asked to examine the list of potential items and provide feedback about whether or not they appeared to be relevant to the study of stuttering. Respondents also provided input about wording, overlap between items, and general appropriateness of the underlying constructs embodied in the item sets.

Next, in the spring of 1998, the items were revised and presented to focus groups involving more than 30 people who stutter, identified through personal contacts of the authors. These participants were asked to provide their opinions about whether or not the items represented their experiences with stuttering. They also commented on wording and underlying constructs. The items were revised again in preparation for tryout testing.

Tryout Testing

Based on the focus group analyses, the initial item sets were pared down and revised to form three tryout instruments, one for each component.

- The first trial instrument, *Speaker's Reactions to Stuttering* (SRS), examined the speaker's reactions components of the ICIDH. It consisted of three sections: affective reactions, behavioral reactions, and cognitive reactions.
- The second trial instrument, *Functional Communication and Stuttering* (FCS), examined the disability component of the ICIDH across different environments. It consisted of three sections: communicating with other people, communicating at work, and communicating in social situations. The FCS was not designed to examine a speaker's fluency in different situations but rather to examine the overall difficulty the speaker experiences when trying to communicate in those situations, regardless of how fluent he or she may be.

- The third trial instrument, *Quality of Life and Stuttering* (QOL-S), examined the handicap component of the ICIDH across different environments. It consisted of three sections: general quality of life, satisfaction with communication, and impact of stuttering. The QOL-S was the first attempt to examine the quality of life of individuals who stutter.

The SRS, FCS, and QOL-S were evaluated in two tryout studies. The first, which occurred in mid-1998, involved 39 adults who stutter (all personal contacts of the authors). The study was primarily aimed at furthering the analyses begun after conducting the focus groups. Participants completed the tests and provided detailed feedback about factors such as the wording of the items and response scales, overall test length, and record form layout. Statistical analyses examined only the central tendency and distribution of the respondents' data in a preliminary attempt to identify items with strong ceiling or floor effects (indicating that they offered little usefulness for differentiating the experiences of people who stutter). A variety of revisions to the item pool, item wording, record form layout, and other factors were made following this initial tryout, and the instruments were prepared for a second tryout study.

The second study, conducted in the summer of 1999, involved a larger sample of adults who stutter. These participants were identified through the authors' clinical and personal contacts and through the support of the National Stuttering Association's Research Committee. The three tryout instruments were distributed to 85 participants, along with a brief demographic questionnaire and the S24 scale (Andrews & Cutler, 1974). The S24, which was based on the original Erickson (1969) S-Scale, examines "communication attitudes" in people who stutter. It was used to provide a means of assessing concurrent validity for the SRS and to identify differences between attitudes and functional communication abilities as measured by the FCS.

Completed packets were received from 71 of the 85 individuals (84% return rate). Central tendencies and distributions of the responses for each item were examined to identify ceiling and floor effects, limited variability (an item has limited variability if nearly all respondents choose the same answer, indicating that it did not meaningfully differentiate the experiences of the respondents), and non-normal distributions. Preference was given to items whose distribution of responses resembled a normal curve. However, some items with highly skewed score distributions were retained because, although the majority of respondents chose the same answer, there was sufficient variability across participants to differentiate the experiences of people who stutter. An examination of kurtosis revealed that some items were highly leptokurtic (i.e., the majority of respondents chose "neutral" responses, indicating that the items were relevant for only a small number of people who stutter). In the majority of cases, items with non-normal distributions were eliminated or reworded. In some cases, however, items with non-normal distributions were retained because focus group discussions had indicated that they were relevant for a subset of people who stutter.

Next, pairwise correlations were calculated between all items across all three tryout tests to identify items that might be redundant. Any item that correlated .90 or greater with any other item was eliminated, combined, reworded, or replaced. Next, internal-consistency reliability (alpha) was calculated for the total score of each tryout instrument to ensure that each instrument was examining a consistent construct. Alpha coefficients ranged from .93 to .96, indicating a high degree of internal consistency within each test. Finally, correlations were calculated between the three tests to ensure that there was minimal overlap between them (i.e., to ensure that they were examining different, though possibly related, constructs). These correlations ranged from .76 to .83. Although these correlations are high, they are substantially lower than the tests' reliabilities, confirming that the SRS, FCS, and QOL-S assess different constructs.

As an additional source of information about item functioning, five individuals who stutter were given the tryout version of the test twice, about two weeks apart, and items on which they responded inconsistently were considered for

revision. However, the majority of items yielded very high agreement.

Revisions to the Tryout Instruments

By providing information about the distribution of responses to the test items and the reliabilities and intercorrelations of the forms, the second tryout study helped to guide the future development of the instrument. Numerous items from the initial item pool were eliminated or combined with other items. For example, the tryout version of the SRS examined both the frequency of a given emotional reaction (e.g., how often a person felt embarrassed) and the degree to which the person felt that emotion (e.g., how embarrassed the person felt). Results from the tryout study revealed that respondents did not differentiate between these two constructs; the correlation between responses for frequency and degree was greater than .90. Therefore, these two sets of questions were combined into a single set to assess how often respondents experience various emotions. In addition, the tryout version of the SRS contained both positive (e.g., accepting) and negative (e.g., embarrassed) emotion terms. The tryout analyses demonstrated a very strong negative correlation between the positive and negative emotion terms, so the positive emotion terms were eliminated to facilitate scoring.

Similarly, tryout analyses revealed that respondents had trouble understanding the items on the early draft of the FCS (which asked people to indicate how much stuttering affected their ability to perform various activities). It appeared to the authors that the respondents were simply indicating how fluent they were in those situations, which was not what the FCS was designed to examine. As a result, the entire FCS was reworded so it examined the respondents' *difficulty* with communication in various situations. (Subsequent testing, described later in this chapter, revealed that this new wording successfully examined functional communication.)

The tryout analyses also provided information about the response scales used in the tests. Some of the tryout items used 5-point response scales, and some used 7-point scales. For some items, higher numbers on the response scale indicated greater negative impact; for other items, the opposite was true. Analyses revealed that respondents did not appear to pay consistent attention to the direction of the response scale, leading to some contradictory responses. As a result, the tests were revised so that all items used the same type of response scale, with higher numbers consistently indicating greater negative impact. This change also helped to simplify scoring. Finally, because analyses revealed no significant difference in the distribution of participants' scores between the 5-point and 7-point response scales, the 5-point scale was adopted to simplify scoring.

Based on the results of the focus groups, tryout studies, and other analyses, the SRS, FCS, and QOL-S were revised, refined, shortened, and prepared for the next round of data collection. Additional changes were made to the instruments to account for changes in the WHO's framework for describing disorders, as described in the next section.

Development of the Final Version

Revised Underlying Structure: The ICF

In 2001, the WHO released its long-anticipated revision to the ICIDH framework. This new framework, the *International Classification of Functioning, Disability, and Health* (ICF; World Health Organization, 2001), differed from the ICIDH in a number of key ways (Yaruss & Quesal, 2004). Rather than emphasizing the consequences of disorders, the ICF was designed to describe all of human health experience, both negative and positive. Thus, whereas the ICIDH focused on the difficulties a person might have as the result of a health problem, the ICF described not only the difficulties but also the ways in which the person could overcome those difficulties. This made the new framework even more relevant to the study of stuttering (and other disorders) and to the evaluation of treatments designed to minimize the negative effects of health concerns.

More specifically, the new ICF included two major components:

- *Body Structure and Body Function:* This component included all of the major structures of the human body (e.g., skeletal and muscular systems) and all of the functions those structures can perform (e.g., movement). Particularly important for the development of the OASES instrument is the inclusion of the structures related to speech (e.g., nervous system, lungs, larynx, articulators,

etc.) and the functions associated with speech (e.g., the physiological functions of respiration, phonation, and articulation). Consistent with the original ICIDH, any difficulties that are experienced with respect to body structure or body function are termed *impairments*. Thus, people who have difficulty producing speech can be said to exhibit an impairment in body function.

- *Activities and Participation:* This component included all of the activities in which a person might engage as he or she participates in daily life. Examples of daily activities include talking with others, performing work-related tasks, and maintaining interpersonal relationships. These activities form an integral part of participation in life events, such as fulfilling social, employment, educational, and familial goals. Difficulties experienced in completing daily activities are referred to as *activity limitations,* and difficulties participating in life are referred to as *participation restrictions.* People who stutter may experience limitations in their ability to perform daily activities such as introducing themselves and talking to others. These limitations may ultimately lead to restrictions in the person's ability to participate in events associated with work, school, social interactions, or family life.

In addition, the concepts of *speaker's reactions* and *environmental reactions*, added to the ICIDH in Yaruss's (1998) adaptation of the framework to describe stuttering, were directly incorporated into the new ICF model. These new *contextual factors* were designed to be used in part to help differentiate the varied life experiences of individuals with the same health condition. For example, some people with a particular condition, such as stuttering, may experience significant disability, while others with the same condition may be less limited. Personal and environmental contextual factors can help explain this difference by describing the individual's personal coping style (including affective, behavioral, and cognitive reactions) and the more or less supportive contributions of the people in his or her environment (Yaruss, 2007).

Content Revision

The transition from the ICIDH to the ICF as the underlying structure for the OASES project led to two changes to the tryout instruments. First, the SRS, FCS, and QOL-S were combined into a single, expanded instrument to emphasize the links between the overall instrument and the ICF. (This trial instrument was temporarily called the CASES, or *Comprehensive Assessment of the Speaker's Experience of Stuttering.* The shift to the final name, OASES, occurred after standardization testing was completed.)

Second, a new "General Information" section was added to the beginning of the instrument to measure the speaker's perception of impairment in body function (i.e., the stuttering behaviors themselves). As described above, early efforts to develop a comprehensive instrument to measure stuttering did not include a section on the impairment because this factor had been examined so often in previous studies. Nevertheless, the advent of the ICF framework highlighted the important differences between the perspective of the individual with an impairment and the perspective of others in his or her environment. Thus, rather than relying on the clinician's assessment of the surface characteristics of stuttering (as has commonly been done in clinical work and in stuttering research), it seemed appropriate to also gather information about the *speaker's* assessment of the surface characteristics of his or her stuttering. Specific items were added to assess the speaker's perception of his or her speech fluency and speech naturalness (i.e., whether the speaker perceived his or her speech to be like the speech of other people), the ease with which the speaker was able to use techniques learned in treatment, and the speaker's overall knowledge about stuttering. This section also contained a series of generalized "attitude" statements that provide a means for clinicians to check the consistency of a respondent's answers. These additional items were based upon the large collection of literature (referenced earlier) examining communication attitudes in individuals who stutter.

The resulting instrument consisted of a single test with 100 items. Each item had a 5-point response scale with higher values indicating greater negative impact. The instrument was divided into four sections:

- Section I (General Information) contained 20 items that examined the speaker's perceptions and knowledge about the stuttering impairment and his or her general attitudes about stuttering.
- Section II (Your Reactions to Stuttering), which was based on the revised SRS instrument, contained 30 items that examined the speaker's affective, behavioral, and cognitive reactions to stuttering. This section examined the personal contextual factors described by the ICF.
- Section III (Communication in Daily Situations), which was based on the revised FCS instrument, contained 25 items that examined the speaker's difficulties with communication in key situations at work, in social settings, and at home. This section examined the activity limitations and environmental contextual factors described by the ICF.
- Section IV (Quality of Life), which was based on the revised QOL-S instrument, contained 25 items that examined the impact of stuttering on various aspects of the speaker's life. This section examined the participation restrictions and environmental contextual factors described by the ICF.

The structure of this revised instrument was the same as that of the final OASES instrument. To ensure the appropriateness, reliability, and validity of the test items and scores, and to provide an empirical basis for scoring procedures and interpretation, the test was standardized on a large sample of respondents.

Standardization

Participants in the standardization testing were drawn in part from a database of 500 individuals who stutter, obtained from the National Stuttering Association (NSA). It was recognized that participants in a self-help organization do not necessarily constitute a random sample of people who stutter. However, studies of NSA members indicate significant diversity in terms of life experiences and experiences in treatment (McClure & Yaruss, 2003; Yaruss, Quesal, & Murphy, 2002; Yaruss, Quesal, Reeves, et al., 2002). Furthermore, a census revealed that the majority of the people on the NSA mailing list are not members of the organization. Many are simply individuals who requested information about stuttering. Indeed, analysis of the demographic data collected through this study indicated that nearly 60% of the respondents were not active participants in the organization. Therefore, concerns that the sample might be unduly biased by the fact that it was drawn from the NSA mailing list were minimized. To further reduce the possibility of bias, approximately 50 additional individuals who stutter but who were not affiliated with the NSA were recruited for participation in this study through personal and professional contacts of the authors and their colleagues.

Copies of the standardization version of the OASES test were sent to 550 individuals. Of these, 183 packets were completed and returned. Six of the returned forms were excluded because the respondents were younger than 18, and 4 were excluded because they were not complete. As a result, data analyses for the standardization sample were based on responses from 173 adults who stutter. The response rate of 31.5%, although modest, was not surprising given that the majority of respondents received the test in the mail. Nevertheless, the sample was judged to be large enough to permit further analysis of the distribution of responses for standardization of the scoring procedures, particularly considering the extensive earlier tryout testing.

Demographic characteristics were available for approximately half of the respondents. They ranged in age from 18 to 78, with a mean age of 51 (SD = 13.5 years). The ratio of male to female respondents was 3:1, closely mirroring the distribution of males to females in the population of adults who stutter (Bloodstein, 1995). Approximately 18% of the respondents indicated that they had received speech treatment in the previous two years.

Data analysis started with a careful examination of each response form to ensure that it was completed correctly. The following errors were identified as the most common, and the data set was adjusted to account for them.

- *Skipped sections:* In some instances, entire sections were skipped. This happened 6 times out of a total of 692 possible sections (173 respondents with 4 sections per test). These sections were excluded from further analysis, although the remainder of the test was not discarded.
- *Same answer to all items:* Occasionally, a respondent marked the same answer for all of the items in a section. Although these could be valid responses, it is more likely that the respondent was not paying careful attention to the items or did not understand the instructions. This happened 12 times out of the 692 possible sections, and in such cases, these sections were excluded from further analysis.

As in the tryout studies, central tendencies and distributions of item responses were analyzed for each item to identify ceiling and floor effects, skewness, and kurtosis (reported in Chapter 5). Because this was the third time these types of analyses were completed for most of these items, the desired characteristics were obtained for the vast majority of them (i.e., a normal distribution with minimal skew or kurtosis). Five items that did not have these "ideal" characteristics were retained in the final instrument because they were judged to be relevant for a subset of respondents (e.g., difficulties experienced in educational settings, in talking with children, etc.).

As before, inter-item correlations were calculated to verify that items were not redundant, with a maximum allowable correlation of $r = .90$ (observed r ranged from .01 to .89). The internal-consistency reliabilities and inter-correlations of section scores were calculated, as reported in Chapter 5.

Because the results from the standardization study indicated that the items exhibited the desired characteristics, only slight changes were needed: minor grammatical and typographical corrections were made to a few items, and the sequence of the first two items of Section III was reversed. The final stage in test development was the refinement of scoring procedures and the identification of impact ratings based on the data obtained from the standardization sample.

Development of Impact Scores

Scoring Procedures

A variety of scoring procedures were used throughout the development of the OASES instrument. This was due in part to the fact that different scoring methods were being considered at different stages of test development. For example, early in the process, when the instrument consisted of three separate tools (the SRS, the FCS, and the QOL-S), each tool had its own response scales and scoring procedures. Later, with the creation of a single instrument (the CASES), the scales and scoring procedures were made more uniform, although final scoring procedures and ranges had not yet been established.

As explained at the beginning of this chapter, one of the guiding principles in the development of the OASES instrument was that scoring must be simple enough to be performed in a clinical setting immediately after the speaker completes the test. This principle influenced several aspects of the development process, including the decision to maintain a consistent 5-point response scale across all sections of the instrument, with higher numbers always indicating greater negative impact. This allowed the same interpretations to be used when determining scores for individual sections and for the test as a whole.

One potential scoring complication is that not all of the items on the OASES instrument apply to all people who stutter. For example, items that refer to employment and children do not apply to everyone. To account for this variability, it was necessary to allow individuals to skip items that are not applicable to their lives.

For this reason, OASES section and overall impact scores simply reflect the average score of items in the section (or in the test as a whole) that the client answered. This eliminated the need for look-up tables for determining impact scores. As described in Chapter 2, the scoring procedure simply involves totaling the individual's item scores in each section, or for the test as a whole, and then dividing that

number by the total number of items the individual completed in that section or on the test as a whole.

The result is that the scores for the OASES instrument always range from 1 (if the individual answered 1 to every item) to 5 (if the individual answered 5 to every item). (Note that impact scores from the scoring procedure reported in Yaruss & Quesal [2006], which ranged from 20 to 100, can easily be converted to this scoring system by dividing them by 20.)

Impact Ratings

Data from the participants in the tryout and standardization studies were used to establish ranges of impact scores that indicate whether the impact of stuttering on a speaker's life was mild, mild-to-moderate, moderate, moderate-to-severe, or severe. These categories were defined based on the variability around the mean, as shown in **Table 4.1**.

Applying these guidelines to the data from the tryout and standardization studies yielded a set of cut-off scores for determining the impact ratings. Values were rounded in these calculations where necessary to facilitate scoring and to account for differences in the distribution of data across the four sections of the instrument. The same cut-off points for impact scores are used for each of the four sections of the instrument and for the instrument as a whole. **Table 4.2** shows the impact ratings corresponding to impact scores, as well as the frequency distributions of the impact ratings for each section and for the test as a whole, based on the standardization sample.

Classifying the impact scores in this way yielded distributions of impact ratings that approximate the normal curve, as shown for the overall score in **Figure 4.1.**

The impact scores and ratings for the OASES instrument were defined so they would describe the experiences of a broad range of individuals who stutter, with a normal distribution centered on "moderate" negative impact. These scores can be used not only for describing the impact of stuttering in clinical settings but also for describing populations of participants in research studies and determining changes in negative impact as a part of treatment outcomes research.

Table 4.1 Impact Rating Categories Corresponding to Distances From the Mean

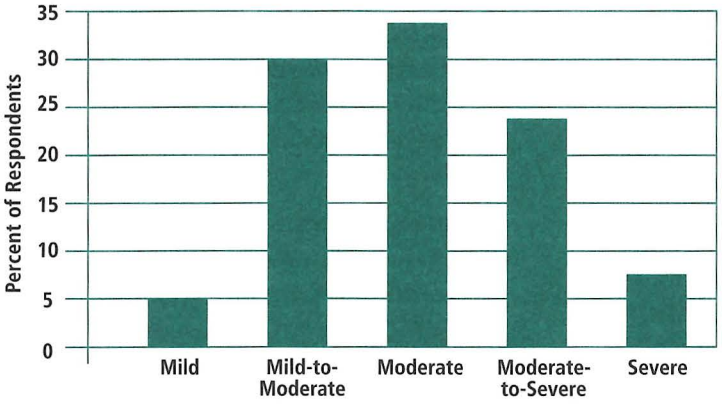
Impact Rating	Distance From the Mean
Mild	More than 1.5 *SD* below the mean
Mild-to-Moderate	Between 1.5 *SD* below the mean and 0.51 *SD* below the mean
Moderate	Between 0.5 *SD* below the mean and 0.49 *SD* above the mean
Moderate-to-Severe	Between 0.5 *SD* above the mean and 1.49 *SD* above the mean
Severe	More than 1.5 *SD* above the mean

Table 4.2 Frequency Distributions of Impact Ratings in the Standardization Sample

Impact Rating	Impact Scores	Section I	Section II	Section III	Section IV	Overall
Mild	1.00 – 1.49	5%	5%	7%	17%	5%
Mild-to-Moderate	1.50 – 2.24	23%	23%	25%	33%	30%
Moderate	2.25 – 2.99	37%	34%	33%	23%	34%
Moderate-to-Severe	3.00 – 3.74	31%	27%	28%	19%	24%
Severe	3.75 – 5.00	5%	12%	8%	8%	7%

Note. Percentages may not sum to 100 because of rounding.

Figure 4.1 Distribution of overall impact ratings



Summary

The development of the OASES instrument was guided by several key principles that (a) ensured that it would be closely related to an underlying theoretical framework that is used around the world for describing human health experience, (b) resulted in streamlined administration and scoring procedures that are straightforward and easy to follow in typical clinical settings, and (c) maintained a focus on the impact of stuttering on the speaker's life rather than on the surface characteristics of the speaker's fluency. Development of the instrument proceeded through a series of stages in which items were proposed, evaluated, and refined based on focus group feedback, tryout studies, and item analyses. Scoring procedures were developed and revised based on data from the tryout and standardization studies, and, ultimately, a system of impact ratings was derived so clinicians and researchers would be able to use the OASES instrument to calculate the impact of stuttering on their clients' lives.

Technical Characteristics

Chapter 5

This chapter summarizes the efforts undertaken to ensure that scores on the OASES instrument are reliable and valid. Various analyses of item characteristics and score reliability were mentioned in Chapter 4 as they related to early stages in the development of the test. This chapter presents the results of analyses of the standardization data, and provides information that clinicians and researchers need to interpret OASES impact scores and ratings.

Item Characteristics

The 100 items on the OASES instrument underwent individual item analyses using standardization data to ensure that each item had an appropriate distribution of scores. On all but four of the items, the minimum score observed in the standardization sample was 1, and the maximum observed score was 5. On three items (Items 32, 97, and 100) the highest observed score was 4, and on one item (Item 98) no response was greater than 3. **Tables 5.1** through **5.4** report the mean, mode, standard deviation, skewness, and kurtosis of the items in each of the four sections of the OASES instrument. The mean and mode are measures of central tendency: the mean is the arithmetic average, and the mode is the most common score. The standard deviation is a measure of how dispersed the scores are on that item. Skewness represents asymmetry of the item score distribution; a positive value means that most scores cluster near the low end of the scale and there is a long tail extending to the high end. (In a symmetrical distribution, the value of skewness is 0.) Finally, kurtosis is a measure of the flatness or peakedness of the distribution; a positive value indicates that there is a larger number of extreme scores (1 or 5) than would be expected in a normal distribution, which would have a kurtosis value of 0.

Table 5.1

Descriptive Statistics for OASES Section I Items

Section I: General Information					
Item Number	Mean	Mode	*SD*	Skewness	Kurtosis
1	2.5	2	0.7	0.8	0.7
2	2.6	2	0.8	0.5	0.0
3	2.8	2	0.9	0.5	-0.3
4	3.3	3	1.0	-0.3	-0.4
5	2.7	2	1.0	0.1	-0.8
6	2.3	2	0.9	0.4	-0.2
7	2.4	2	0.9	0.5	-0.2
8	2.4	2	1.0	0.4	-0.4
9	2.7	3	1.0	0.1	-0.3
10	2.6	2	1.1	0.4	-0.4
11	2.7	2	1.2	0.2	-1.1
12	2.4	2	1.2	0.4	-0.9
13	2.8	4	1.1	0.0	-0.9
14	2.5	2	1.0	0.4	-0.3
15	2.8	3	1.1	0.1	-0.7
16	3.1	4	1.3	-0.2	-1.1
17	2.5	2	1.2	0.5	-0.5
18	3.1	4	1.3	-0.3	-1.1
19	3.3	4	1.1	-0.3	-0.6
20	2.1	1	1.0	0.6	-0.2
Mean	2.67	2.50	1.05	0.24	-0.49
SD	0.32	0.89	0.16	0.32	0.45
Min	2.06	1.00	0.73	-0.30	-1.13
Max	3.26	4.00	1.35	0.76	0.74

Table 5.2
Descriptive Statistics for OASES Section II Items

Section II: Your Reactions to Stuttering					
Item Number	Mean	Mode	*SD*	Skewness	Kurtosis
21	2.5	2	1.1	0.4	-0.3
22	2.7	3	1.1	0.2	-0.6
23	2.9	3	1.2	0.1	-0.7
24	2.5	2	1.2	0.4	-0.9
25	3.3	3	1.1	-0.3	-0.4
26	2.4	3	1.1	0.5	-0.5
27	2.3	3	1.1	0.5	-0.6
28	3.0	3	1.2	0.0	-0.6
29	1.9	1	1.0	1.1	0.5
30	3.4	3	1.1	-0.3	-0.3
31	3.3	3	1.0	-0.2	-0.3
32	2.2	2	0.9	0.4	-0.6
33	2.7	3	1.1	0.2	-0.7
34	3.1	3	1.1	0.0	-0.7
35	3.0	4	1.1	-0.3	-0.8
36	2.4	2	1.1	0.3	-0.9
37	2.8	4	1.2	-0.1	-1.0
38	2.9	2	1.2	0.1	-0.9
39	2.9	3	0.9	-0.1	-0.3
40	2.2	1	1.0	0.4	-0.7
41	2.7	1	1.4	0.1	-1.4
42	2.5	1	1.3	0.3	-1.3
43	3.4	5	1.6	-0.4	-1.4
44	3.1	4	1.4	-0.2	-1.3
45	2.5	2	1.3	0.4	-1.0
46	2.5	1	1.2	0.4	-0.8
47	2.3	1	1.3	0.7	-0.7
48	3.4	4	1.3	-0.5	-1.0
49	2.2	1	1.3	0.6	-1.0
50	2.9	4	1.4	0.1	-1.4
Mean	2.73	2.57	1.19	0.16	-0.75
SD	0.41	1.14	0.16	0.36	0.40
Min	1.89	1.00	0.90	-0.50	-1.42
Max	3.40	5.00	1.59	1.05	0.47

Table 5.3
Descriptive Statistics for OASES Section III Items

Section III: Communication in Daily Situations					
Item Number	Mean	Mode	*SD*	Skewness	Kurtosis
51	3.1	3	1.0	-0.1	-0.3
52	2.4	2	1.0	0.5	0.0
53	2.9	3	1.1	0.0	-0.5
54	3.5	5	1.3	-0.4	-0.9
55	2.7	3	1.1	0.2	-0.4
56	2.3	2	1.1	0.7	0.1
57	2.8	2	1.1	0.3	-0.7
58	3.1	3	1.2	0.0	-0.9
59	3.0	3	1.1	0.0	-0.5
60	2.7	3	1.2	0.2	-0.8
61	2.6	2	1.1	0.4	-0.6
62	3.0	3	1.3	0.1	-1.0
63	2.4	2	0.9	0.4	-0.2
64	2.6	2	1.0	0.3	-0.4
65	2.5	2	1.1	0.4	-0.3
66	2.7	3	1.1	0.2	-0.7
67	3.1	3	1.2	0.0	-0.8
68	2.6	3	1.0	0.2	-0.5
69	2.3	2	1.0	0.5	0.1
70	2.6	2	1.2	0.4	-0.8
71	2.4	2	1.1	0.5	-0.4
72	1.8	1	0.8	0.9	0.0
73	1.7	1	0.8	0.7	-1.0
74	2.2	2	0.9	0.3	-0.5
75	2.0	2	0.9	0.5	-0.8
Mean	2.61	2.44	1.06	0.28	-0.50
SD	0.43	0.82	0.14	0.28	0.34
Min	1.67	1.00	0.78	-0.40	-1.05
Max	3.49	5.00	1.30	0.85	0.10

Table 5.4
Descriptive Statistics for OASES Section IV Items

Section IV: Quality of Life					
Item Number	Mean	Mode	*SD*	Skewness	Kurtosis
76	2.7	2	1.2	0.1	-1.0
77	2.7	2	1.1	0.1	-0.9
78	2.7	2	1.0	0.2	-0.6
79	2.8	2	1.1	0.0	-0.9
80	2.9	4	1.1	-0.1	-0.9
81	3.0	3	1.1	-0.1	-0.8
82	2.0	1	1.0	0.8	0.0
83	1.7	1	0.9	1.3	1.4
84	2.0	1	1.0	0.9	0.3
85	2.5	3	1.1	0.2	-0.9
86	2.0	1	1.2	1.0	-0.1
87	2.4	2	1.2	0.6	-0.5
88	2.1	2	1.1	0.9	0.3
89	2.2	1	1.3	0.7	-0.7
90	2.6	2	1.3	0.3	-1.1
91	1.9	1	1.1	1.0	0.1
92	2.4	1	1.4	0.5	-1.0
93	2.6	2	1.3	0.3	-1.1
94	2.4	2	1.2	0.4	-1.0
95	2.6	2	1.3	0.3	-1.0
96	2.1	1	1.2	0.7	-0.7
97	1.8	1	1.0	1.0	0.1
98	1.8	1	1.0	1.0	-0.1
99	2.4	2	1.2	0.5	-0.8
100	1.7	1	1.0	1.5	1.7
Mean	2.32	1.72	1.14	0.57	-0.41
SD	0.39	0.79	0.11	0.44	0.75
Min	1.65	1.00	0.92	-0.13	-1.14
Max	3.04	4.00	1.36	1.54	1.68

Reliability

Reliability describes the consistency of measurements made by an instrument. In the development of the OASES instrument, two forms of reliability were assessed: *internal consistency reliability* and *test–retest reliability.*

Internal Consistency Reliability and Standard Error of Measurement

This type of reliability indicates the degree to which all of the items measure the same construct. The split-half (odd-even) method is most suitable for the OASES, because each of the four sections is made up of several focused subsections which should be represented equally in the two parallel half-length tests used for computing reliability. The reliabilities for the standardization sample shown in **Table 5.5** indicate a very high degree of internal consistency for each of the four sections as well as for the overall score.

Table 5.5 also reports the standard error of measurement (*SEM*) of each score, based on the internal-consistency reliabilities. The *SEM* may be thought of as the average amount by which an observed score differs from the true score, that is, the score that would be obtained if the test were perfectly reliable. All test scores are affected by measurement error, and the *SEM* is an indicator of the extent of this influence. A band of impact scores that ranges from 1 *SEM* below the observed score to 1 *SEM* above that score has a 68% probability of including the person's true impact score.

Test–Retest Reliability

Test–retest reliability represents the degree to which individuals provide consistent answers during repeated administrations of an instrument over a brief enough time interval that the construct measured by the test is unlikely to have changed. To assess test–retest reliability, the final version of the OASES instrument was administered to 14 adults who stutter, identified through professional and clinical contacts of the authors. The test–retest interval was 10 to 14 days. Participants did not receive any treatment in the intervening period.

Test–retest reliability was evaluated based on (a) the correlation between scores for the two administrations, (b) point-to-point agreement, (c) the average absolute difference between individual item scores and between impact scores, and (d) comparison of impact ratings.

Table 5.5 Internal Consistency Reliabilities and *SEM*s of Impact Scores

Section	*N*	Mean	*SD*	Reliability	*SEM*
I: General Information	173	2.67	.69	.94	.17
II: Your Reactions to Stuttering	173	2.75	.81	.97	.15
III: Communication in Daily Situations	163	2.66	.77	.96	.15
IV: Quality of Life	165	2.37	.87	.98	.11
Overall Score	173	2.60	.73	.99	.08

Table 5.6 Test–Retest Reliabilities of Impact Scores

Section	Retest Reliability	First Testing		Second Testing	
		Mean	*SD*	Mean	*SD*
I: General Information	0.95	1.84	0.37	1.76	0.43
II: Your Reactions to Stuttering	0.95	1.82	0.46	1.74	0.48
III: Communication in Daily Situations	0.91	1.70	0.49	1.63	0.49
IV: Quality of Life	0.89	1.44	0.37	1.43	0.45
Overall Score	0.95	1.70	0.40	1.64	0.43

Note. $N = 14$; interval = 10 to 14 days

Table 5.6 reports the correlations between impact scores for the first and second administrations for the 14 participants. These retest reliabilities are very high, ranging from .89 to .95, indicating that OASES section and overall scores are highly consistent across administrations.

Point-to-point agreement analyses examine the degree to which individuals provide the same responses to individual items from one administration to the next. For the 14 test–retest participants, 77.7% of the item responses were the same on both administrations, and 98.5% of the responses were within one point of each other. These results demonstrate very strong consistency of responses from one administration to the next.

The average absolute differences in item scores and impact scores between the two administrations are reported in **Table 5.7**. On average, an item score changed on retest by only approximately one-quarter of a point, consistent with the finding cited above that approximately three-quarters of the items were scored the same on the first and second administrations. The average absolute difference between impact scores is also very small, ranging from .11 to .15.

Table 5.7 Mean Absolute Test–Retest Differences in Item and Impact Scores

Section	Item Scores	Impact Score
I: General Information	.25	.11
II: Your Reactions to Stuttering	.28	.14
III: Communication in Daily Situations	.22	.15
IV: Quality of Life	.21	.15
Overall Score	.24	.11

Finally, impact ratings from one administration to the next were compared. Based on the high degree of consistency observed for the individual item data, it was anticipated that none of the participants' impact ratings would differ between test administrations. The results confirmed this prediction.

Altogether, findings from the internal consistency and test–retest reliability analyses reveal that the OASES instrument exhibits strong consistency among scores on items within a section and between scores from one administration to another. These results support its use for repeated administration in clinical settings and treatment outcomes studies.

Validity

Validity refers to the accuracy or correctness of statements made on the basis of test scores. Two types of evidence can be presented to support the validity of OASES scores: evidence based on the content of the instrument (*content validity*), and evidence based on how OASES scores relate to one another and to external variables (*construct validity*).

Content Validity

The OASES instrument was primarily designed to measure the impact of stuttering on the lives of people who stutter. To maximize content validity, the authors decided to base the entire OASES development process on the World Health Organization's widely used frameworks for describing human health experience, the *International Classification of Impairments, Disabilities, and Handicaps* (ICIDH) and *The International Classification of Functioning, Disability, and Health* (ICF). The OASES instrument was designed from the start to measure concepts drawn directly from the structure of the ICIDH and ICF, including the speaker's perception of his or her speech fluency, the speaker's reactions to stuttering, the impact of stuttering on the speaker's ability to communicate in various situations, and the impact of stuttering on the speaker's overall quality of life. By tying the development of the OASES instrument to these frameworks, the authors were able to ensure that it would measure the disorder in a comprehensive manner, using underlying constructs that had been thoroughly studied across a variety of fields.

The content validity of OASES scores was further strengthened through two steps taken during development. First, expert reviewers and people who stutter were consulted in the development and refinement of the item pool to ensure that the items were relevant to the experiences of individuals who stutter. Second, three studies were conducted with a total of more than 300 people who stutter to analyze the items and to ensure that they assess the potential impact of stuttering on people's lives. These analyses provided detailed information about how each item is related to the experience of stuttering.

Construct Validity

To verify that each section of the test examines a different construct, correlations were calculated between impact scores on the sections, using the standardization sample. These correlations, shown in **Table 5.8**, indicate that the sections of the test are only moderately correlated.

Some correlation between sections is to be expected because the speaker's experience of stuttering is affected by a variety of factors that interact. Nevertheless, the fact that the internal-consistency reliabilities of section scores (which range from .94 to .98) are much higher than the correlations between sections suggests that the sections measure different (though related) constructs.

Additional evidence of the validity of test scores typically is provided through correlations with other tests that are thought to be good measures of the constructs of interest. However, in the study of stuttering, there are no other measures that examine the disorder with the breadth and depth seen in the OASES instrument. Nevertheless, one existing measure, the Erickson S24 (Andrews & Cutler, 1974), is commonly used with adolescents and adults who stutter and is designed to measure interpersonal communication attitudes about stuttering. This test was administered to the 71 participants in the second phase of tryout testing of the three initial instruments which were early versions of what is now the OASES test (SRS, FCS, and QOL-S), to determine how results from the trial instruments compared to those of the Erickson S24. The resulting correlations are presented in **Table 5.9**.

As expected, the highest correlation, $r = .83$, was observed between the S24 and the SRS, the trial instrument that contained the most information about communication attitudes. The lowest correlation was observed between the S24 and the QOL-S, suggesting that factors other than attitude contribute to overall quality of life. This finding is consistent with the complicated interaction between aspects of the disorder described by the ICF, and it highlights the value of using an instrument such as the OASES test that can assess more than one component of this complicated disorder.

Table 5.8 Correlations Among Section Impact Scores

Section	I: General Information	II: Your Reactions to Stuttering	III: Communication in Daily Situations	IV: Quality of Life
I: General Information	—	—	—	—
II: Your Reactions to Stuttering	.81	—	—	—
III: Communication in Daily Situations	.66	.80	—	—
IV: Quality of Life	.67	.85	.82	—
Overall Score	.85	.96	.91	.94

Table 5.9 Correlations of OASES Tryout Instruments With the S24

Trial Instrument	Correlation
Speaker's Reactions to Stuttering (SRS)	.83
Functional Communication and Stuttering (FCS)	.79
Quality of Life and Stuttering (QOL-S)	.68

Note: $N = 71$

Summary

The reliability and validity analyses conducted throughout the development of the OASES instrument confirmed the following points:

- OASES scores measure what they were designed to measure.
- Items within each section are internally consistent, indicating that each section measures a single construct.
- Sections are distinct from one another, so their scores provide differential information.
- Scores are consistent from one administration to the next.
- The instrument expands upon currently available measures.

These results indicate that the OASES instrument can be used meaningfully in both clinical and research settings to provide quantitative and qualitative information about the overall impact of stuttering on the lives of people who stutter.

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OASES™

Name: _____

ID Number: _____

Birth Date: _____ Test Date: _____ Gender: ❑ M ❑ F

Are you married (or do you have a significant other)? ❑ Yes ❑ No

Do you have children? ❑ Yes ❑ No

Are you currently employed (or have you been employed in the past three months)? ❑ Yes ❑ No

Have you ever received speech therapy? ❑ Yes ❑ No If yes:

Are you currently receiving speech therapy? ❑ Yes ❑ No

What was the approximate date of your most recent speech therapy? _____

Instructions

This test consists of four sections that examine different aspects of your experience of stuttering. Please complete each item by circling the appropriate number. If an item does not apply to you, leave it blank and move on to the next item.

Turn to the next page.

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Scoring Summary

Instructions: Calculate the impact score for each of the four sections of the OASES instrument by (A) totaling the number of points in each section and (B) counting the number of items completed in each section. The points (A) divided by the number of items taken (B) equal the impact score.

				Impact Rating				
Section	A Points	B Items Completed	A ÷ B = Impact Score	Mild 1.00–1.49	Mild/Moderate 1.50–2.24	Moderate 2.25–2.99	Moderate/Severe 3.00–3.74	Severe 3.75–5.00
I	_____	_____ (min = 18)*	_____	❑	❑	❑	❑	❑
II	_____	_____ (min = 28)	_____	❑	❑	❑	❑	❑
III	_____	_____ (min = 23)*	_____	❑	❑	❑	❑	❑
IV	_____	_____ (min = 23)*	_____	❑	❑	❑	❑	❑
Overall (Total)	_____	_____ (min = 92)*	_____	❑	❑	❑	❑	❑

*Note: Reduce this number by the number of legitimate skips, if any. See "Legitimate Skips and Other Omitted Items" on page 9 of the manual.

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Product Number 30403

Section I: General Information

	A. General information about your speech	Always	Frequently	Sometimes	Rarely	Never
1.	How often are you able to speak fluently?	1	2	3	4	5
2.	How often does your speech *sound* "natural" to you (i.e., like the speech of other people)?	1	2	3	4	5
3.	How consistently are you able to maintain fluency from day to day?	1	2	3	4	5
T 4.	How often do you use techniques, strategies, or tools you learned in speech therapy?	1	2	3	4	5
5.	How often do you say exactly what you want to say even if you think you might stutter?	1	2	3	4	5

	B. How *knowledgeable* are you about...?	Extremely	Very	Somewhat	A Little	Not At All
6.	stuttering in general	1	2	3	4	5
7.	factors that affect stuttering	1	2	3	4	5
8.	what happens with your speech when you stutter	1	2	3	4	5
9.	treatment options for people who stutter	1	2	3	4	5
10.	self-help or support groups for people who stutter	1	2	3	4	5

	C. Overall, how do you *feel* about...?	Very Positively	Somewhat Positively	Neutral	Somewhat Negatively	Very Negatively
11.	your speaking ability	1	2	3	4	5
12.	your ability to communicate (i.e., to get your message across regardless of your fluency)	1	2	3	4	5
13.	the way you sound when you speak	1	2	3	4	5
T 14.	techniques for speaking fluently (e.g., techniques learned in therapy)	1	2	3	4	5
T 15.	your ability to *use* techniques you learned in speech therapy	1	2	3	4	5
16.	being a person who stutters	1	2	3	4	5
T 17.	the speech therapy program you attended most recently	1	2	3	4	5
18.	being identified by other people as a stutterer/person who stutters	1	2	3	4	5
19.	variations in your speech fluency in different situations	1	2	3	4	5
20.	self-help or support groups for people who stutter	1	2	3	4	5

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Section I	**Total Points:**_____	Items in Section: 20
	Min: 18 (minus no. of legit. skips)	Items Skipped:_____
	Max: 100	**Items Completed:**_____

Section II: Your Reactions to Stuttering

	A. When you think about your stuttering, how often do you feel...?	Never	Rarely	Sometimes	Often	Always
21.	helpless	1	2	3	4	5
22.	angry	1	2	3	4	5
23.	ashamed	1	2	3	4	5
24.	lonely	1	2	3	4	5
25.	anxious	1	2	3	4	5

Section II continued: Your Reactions to Stuttering

	When you think about your stuttering, how often do you feel…?	Never	Rarely	Sometimes	Often	Always
26.	depressed	1	2	3	4	5
27.	defensive	1	2	3	4	5
28.	embarrassed	1	2	3	4	5
29.	guilty	1	2	3	4	5
30.	frustrated	1	2	3	4	5

B.	How often do you…?	Never	Rarely	Sometimes	Frequently	Always
31.	experience physical tension when stuttering	1	2	3	4	5
32.	experience physical tension when speaking fluently	1	2	3	4	5
33.	exhibit eye blinks, facial grimaces, arm movements, etc. when stuttering	1	2	3	4	5
34.	break eye contact or avoid looking at your listener	1	2	3	4	5
35.	avoid speaking in certain situations or to certain people	1	2	3	4	5
36.	leave a situation because you think you might stutter	1	2	3	4	5
37.	not say what you want to say (e.g., avoid or substitute words, refuse to answer questions, order something you do not want because it is easier to say)	1	2	3	4	5
38.	use filler words or starters (e.g., "um," clearing throat), or change something about your speech (e.g., use an accent) to be more fluent *(Note: This does not refer to techniques you may have learned in therapy.)*	1	2	3	4	5
39.	experience a period of increased stuttering just after you stutter on a word	1	2	3	4	5
40.	let somebody else speak for you	1	2	3	4	5

C.	To what extent do you agree or disagree with the following statements?	Strongly Disagree	Somewhat Disagree	Neutral	Somewhat Agree	Strongly Agree
41.	I think about my stuttering nearly all the time.	1	2	3	4	5
42.	People's opinions about me are based primarily on how I speak.	1	2	3	4	5
43.	If I did not stutter, I would be better able to achieve my goals in life.	1	2	3	4	5
44.	I do not want people to know that I stutter.	1	2	3	4	5
45.	When I am stuttering, there is nothing I can do about it.	1	2	3	4	5
46.	People should do everything they can do to keep themselves from stuttering.	1	2	3	4	5
47.	People who stutter should not take jobs that require a lot of speaking.	1	2	3	4	5
48.	I do not speak as well as most other people.	1	2	3	4	5
49.	I cannot accept the fact that I stutter.	1	2	3	4	5
50.	I do not have confidence in my abilities as a speaker.	1	2	3	4	5

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Section II	**Total Points:**_____	Items in Section: 30
	Min: 28	Items Skipped:_____
	Max: 150	**Items Completed:**_____

Section III: Communication in Daily Situations

(In this section, indicate how much <u>difficulty</u> you experience in these situations, <u>not</u> how fluent you are.)

	A. How *difficult* is it for you to communicate in the following general situations?	Not At All Difficult	Not Very Difficult	Somewhat Difficult	Very Difficult	Extremely Difficult
51.	Talking with another person one-on-one	1	2	3	4	5
52.	Talking while under time pressure	1	2	3	4	5
53.	Talking in front of a small group of people	1	2	3	4	5
54.	Talking in front of a large group of people	1	2	3	4	5
55.	Talking with people you *do* know well (e.g., friends)	1	2	3	4	5
56.	Talking with people you *do not* know well (e.g., strangers)	1	2	3	4	5
57.	Talking on the telephone in general	1	2	3	4	5
58.	Initiating conversations with other people (e.g., introducing yourself)	1	2	3	4	5
59.	Continuing to speak regardless of how your listener responds to you	1	2	3	4	5
60.	Standing up for yourself verbally (e.g., defending your opinion, challenging someone who cuts in line in front of you)	1	2	3	4	5

	B. How *difficult* is it for you to communicate in the following situations at work?	Not At All Difficult	Not Very Difficult	Somewhat Difficult	Very Difficult	Extremely Difficult
E	61. Using the telephone at work	1	2	3	4	5
E	62. Giving oral presentations or speaking in front of other people at work	1	2	3	4	5
E	63. Talking with co-workers or other people you work with (e.g., participating in meetings)	1	2	3	4	5
E	64. Talking with customers or clients	1	2	3	4	5
E	65. Talking with your supervisor or boss	1	2	3	4	5

	C. How *difficult* is it for you to communicate in the following social situations?	Not At All Difficult	Not Very Difficult	Somewhat Difficult	Very Difficult	Extremely Difficult
66.	Participating in social events (e.g., making "small talk" at parties)	1	2	3	4	5
67.	Telling stories or jokes	1	2	3	4	5
68.	Asking for information (e.g., asking for directions or other people's opinions)	1	2	3	4	5
69.	Ordering food in a restaurant	1	2	3	4	5
70.	Ordering food at a drive-thru	1	2	3	4	5

	D. How *difficult* is it for you to communicate in the following situations at home?	Not At All Difficult	Not Very Difficult	Somewhat Difficult	Very Difficult	Extremely Difficult
71.	Using the telephone at home	1	2	3	4	5
M	72. Talking to your spouse/significant other	1	2	3	4	5
C	73. Talking to your children	1	2	3	4	5
74.	Talking to members of your extended family	1	2	3	4	5
75.	Taking part in family discussions	1	2	3	4	5

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Section III	**Total Points:**_____	Items in Section: 25
	Min: 23 (minus no. of legit. skips)	Items Skipped:_____
	Max: 125	**Items Completed:**_____

Section IV: Quality of Life

	A. How much is your overall *quality of life* negatively affected by...?	Not At All	A Little	Some	A Lot	Completely
76.	your stuttering	1	2	3	4	5
77.	your reactions to your stuttering	1	2	3	4	5
78.	other people's reactions to your stuttering	1	2	3	4	5

	B. Overall, how much does stuttering *interfere with your satisfaction* with communication...?	Not At All	A Little	Some	A Lot	Completely
79.	in general	1	2	3	4	5
E 80.	at work	1	2	3	4	5
81.	in social situations	1	2	3	4	5
82.	at home	1	2	3	4	5

	C. Overall, how much does stuttering *interfere* with your...?	Not At All	A Little	Some	A Lot	Completely
83.	relationships with family	1	2	3	4	5
84.	relationships with friends	1	2	3	4	5
85.	relationships with other people	1	2	3	4	5
86.	intimate relationships	1	2	3	4	5
87.	ability to function in society	1	2	3	4	5

	D. Overall, how much does stuttering *interfere* with your...?	Not At All	A Little	Some	A Lot	Completely
E 88.	ability to do your job	1	2	3	4	5
E 89.	satisfaction with your job	1	2	3	4	5
E 90.	ability to advance in your career	1	2	3	4	5
E 91.	educational opportunities	1	2	3	4	5
E 92.	ability to earn as much as you feel you should	1	2	3	4	5

	E. Overall, how much does stuttering *interfere* with your...?	Not At All	A Little	Some	A Lot	Completely
93.	sense of self-worth or self-esteem	1	2	3	4	5
94.	overall outlook on life	1	2	3	4	5
95.	confidence in yourself	1	2	3	4	5
96.	enthusiasm for life	1	2	3	4	5
97.	overall health and physical well-being	1	2	3	4	5
98.	overall stamina or energy level	1	2	3	4	5
99.	sense of control over your life	1	2	3	4	5
100.	spiritual well-being	1	2	3	4	5

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Section IV	**Total Points:**_____	Items in Section: 25
	Min: 23 (minus no. of legit. skips)	Items Skipped:_____
	Max: 125	**Items Completed:**_____